

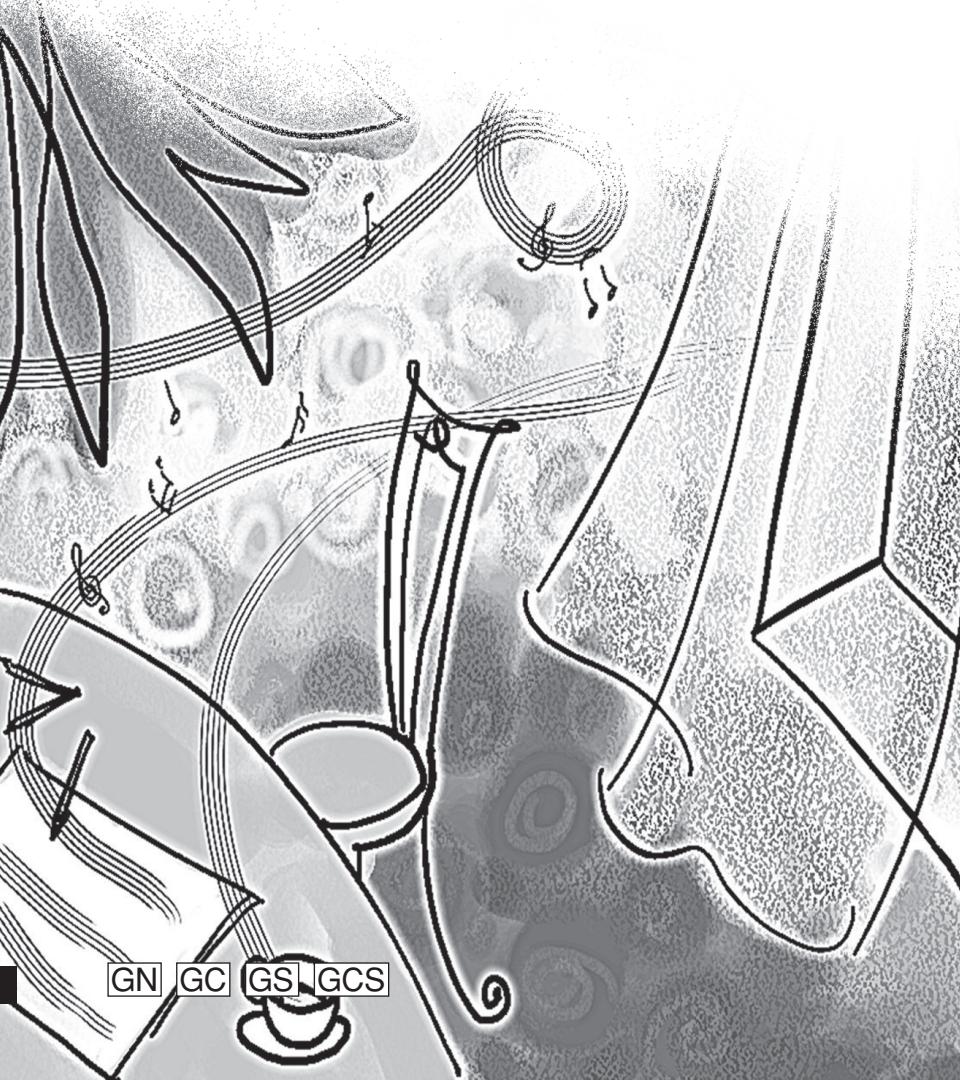
DVD Stereo System

Operating Instructions

Model No. **SC-VK91D**
SC-VK81D
SC-VK71D



The above illustration of the unit is an example and shows SC-VK71D for Southeast Asia.



Panasonic

Region number supported by this player

Region numbers are allocated to DVD players and software according to where they are sold.

For Saudi Arabia, Kuwait, the Middle East and South Africa

- The region number of this player is "2".
- The player will play DVD-Video marked with labels containing "2" or "ALL".

Example:



For Southeast Asia

- The region number of this player is "3".
- The player will play DVD-Video marked with labels containing "3" or "ALL".

Example:



For Australia and N.Z.

- The region number of this player is "4".
- The player will play DVD-Video marked with labels containing "4" or "ALL".

Example:



Before connecting, operating or adjusting this product, please read these instructions completely. Please keep this manual for future reference.

Dear customer

Thank you for purchasing this product.

For optimum performance and safety, please read these instructions carefully.

VK91D : indicates features applicable to SC-VK91D only.

VK81D : SC-VK81D only.

VK71D : SC-VK71D only.

System	SC-VK91D	SC-VK81D	SC-VK71D
Main unit	SA-VK91D (1 unit)	SA-VK81D (1 unit)	SA-VK71D (1 unit)
Front speakers	SB-VK91 (2 units)	SB-VK81 (2 units)	SB-VK61 (2 units)
Center speaker	SB-PC81A (1 unit)	SB-PC81 (1 unit)	SB-PC81B (1 unit)
Surround speakers	SB-PS81A (2 units)	SB-PS81 (2 units)	SB-PS81B (2 units)
Subwoofer(s)	SB-WVK91 (2 units)	SB-WVK81 (1 unit)	----

CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

CAUTION!

- DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.
- DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.
- DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.
- DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.

The socket outlet shall be installed near the equipment and easily accessible or the mains plug or an appliance coupler shall remain readily operable.

This product may receive radio interference caused by mobile telephones during use. If such interference is apparent, please increase separation between the product and the mobile telephone.

For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia

CAUTION:

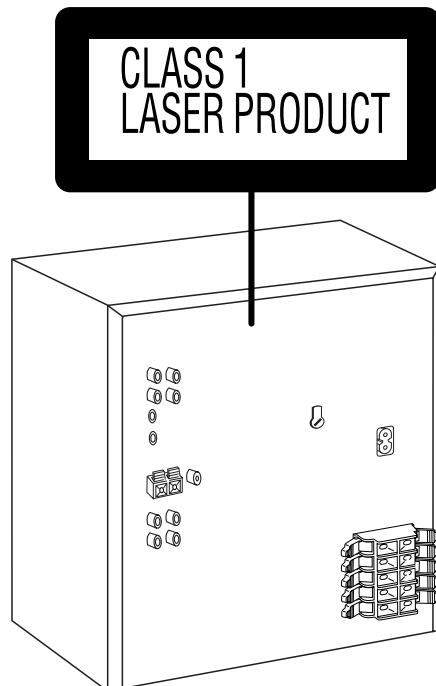
The AC voltage is different according to the area.

Be sure to set the proper voltage in your area before use.
(For details, please refer to page 9.)

- These operating instructions are applicable to models SC-VK91D, SC-VK81D and SC-VK71D for a variety regions.
- Unless otherwise indicated, illustrations in these operating instructions are of SC-VK71D for Southeast Asia.
- Operations in these instructions are described mainly with the remote control, but you can do the operations on the main unit if the controls are the same.

CAUTION - LASER RADIATION WHEN OPEN.
DO NOT STARE INTO BEAM. FDA 21 CFR / Class II
CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM. IEC60825-1 / Class 3b
WARNING - SYNLIG OCH OSYNLIG LASERSTRÄLLNING NÄR DENNA DEL ÄR
ÖPPNAD. BETRÄKTA EJ STRÄLLEN.
ADVARSEL - SYNLIG OG OSYNLIG LASERSTRÅLING VED ÅBNING.
UNDGA UDSETTELSE FOR STRÅLING.
ADVARSEL - SYNLIG OG OSYNLIG LASERSTRÅLING NÄR DEKSLET ÅPNES.
UNDGA EKSPOSERING FOR STRÅLEN.
VARO! - AVATTESSA OLET ALTTINA NÄKYVÄÄ JA NÄKYMÄTÖN
LASERSÄTEYLLELLÄ ÄÄLÄ KÄTÄ SÄTEESÄN.
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG, WENN
ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS
D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
注意 - 打开时有可见及不可见激光辐射,请避免激光束照射。
注意 - ここを開くと可視及び不可視レーザー光が出ます。
ビームを見たり、触れたりしないで下さい。 ROLKS0054

(Inside of product)



For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia

THIS UNIT IS INTENDED FOR USE IN TROPICAL CLIMATES.

For Australia and N.Z.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

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For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia	
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Accessories

Please check and identify the supplied accessories.



1 AC power supply cord

For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia



For Saudi Arabia and Kuwait



For Australia and N.Z.



1 Video cable



1 FM indoor antenna

1 Remote control

For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia

VK91D **VK81D**
(N2QAJB000110)

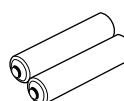
VK71D
(N2QAJB000112)

For Australia and N.Z.

VK81D
(N2QAJB000111)



2 Batteries



Note

The included AC power supply cord is for use with this unit only. Do not use it with other equipment.

Caution for AC Power Supply Cord

(For Saudi Arabia and Kuwait) ("GS" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead cord are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF — KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

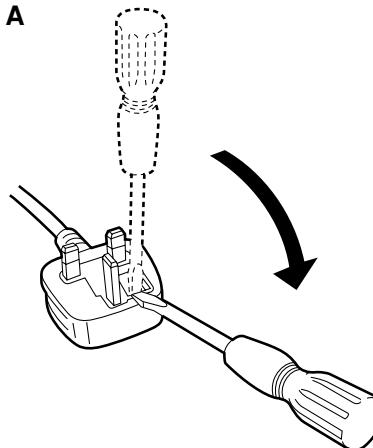
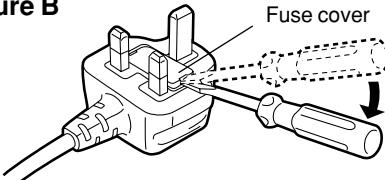


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

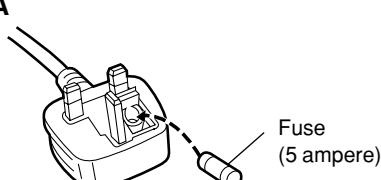
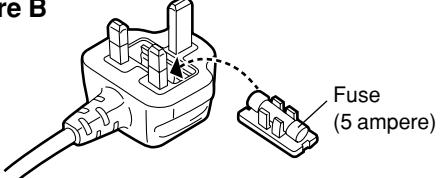


Figure B



Disc information

Discs that can be played

Disc	Logo	Indication in these operating instructions	Remarks
DVD-RAM	 RAM	RAM	Recorded using Version 1.1 of the Video Recording Format (a unified video recording standard). • Recorded with DVD-Video recorders, DVD-Video cameras, personal computers, etc. • Remove discs from their cartridges before use.
		JPEG	Recorded using the DCF (Design rule for Camera File system) standard. • Recorded with Panasonic DVD-Video recorders. • To play JPEG files, select "Play as Data Disc" in Other Menu (→ page 21).
DVD-Audio		DVD-A	—
		DVD-V	Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select "Play as DVD-Video" in Other Menu (→ page 21).
DVD-Video		DVD-V	—
DVD-R			Panasonic DVD-R recorded and finalized* on Panasonic DVD-Video recorders or DVD-Video cameras are played as DVD-Video on this unit.
Video CD		VCD	—
SVCD			Conforming to IEC62107.
CD		CD	This unit is compatible with HDCD, but does not support Peak Extend function. (A function which expands the dynamic range of high level signals) HDCD-encoded CDs sound better because they are encoded with 20 bits, as compared with 16 bits for all other CDs. • During HDCD play, "HDCD" appears on the main unit's display.
CD-R CD-RW	—	WMA MP3 JPEG CD VCD	<ul style="list-style-type: none"> This unit can play CD-R/RW (audio recording disc) recorded with the formats on the left. Close the sessions or finalize* the disc after recording. HighMAT discs WMA, MP3 or JPEG files only. To play without using the HighMAT function, select "Play as Data Disc" in Other Menu (→ page 21).

* A process that allows play on compatible equipment.

• It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, DVD+R, +RW, DVD-RW, SACD, Divx Video Discs and Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM, and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

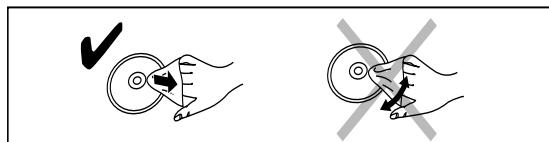
Playing DVDs and Video CDs

The producer of these discs can control how they are played so you may not always be able to control play as described in these operating instructions (for example if the play time is not displayed or if a Video CD has menus). Read the disc's instructions carefully.

■ To clean discs

DVD-A DVD-V VCD CD

Wipe with a damp cloth and then wipe dry.



■ Disc handling precautions

- Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
 - Discs with exposed adhesive from removed stickers or labels (rented discs, etc).
 - Discs that are badly warped or cracked.
 - Irregularly shaped discs, such as heart shapes.

■ Video systems

- This unit can play PAL and NTSC, but your television must match the system used on the disc.
- PAL discs cannot be correctly viewed on an NTSC television.
- This unit can convert NTSC signals to PAL 60 for viewing on a PAL television (→ page 22, "Video" tab — NTSC Disc Output).

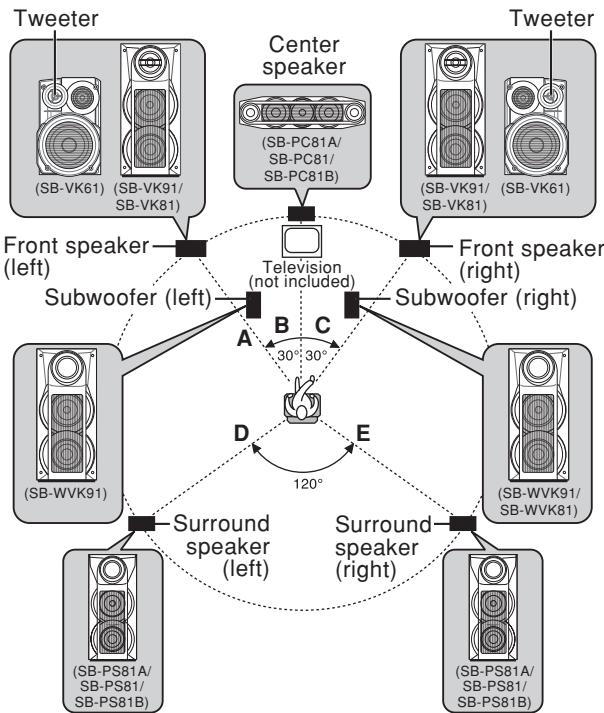
RAM DVD-R

- Clean with an optional DVD-RAM/PD disc cleaner (LF-K200DCA1, where available).
- Never use cloths or cleaners for CDs, etc.

Simple setup

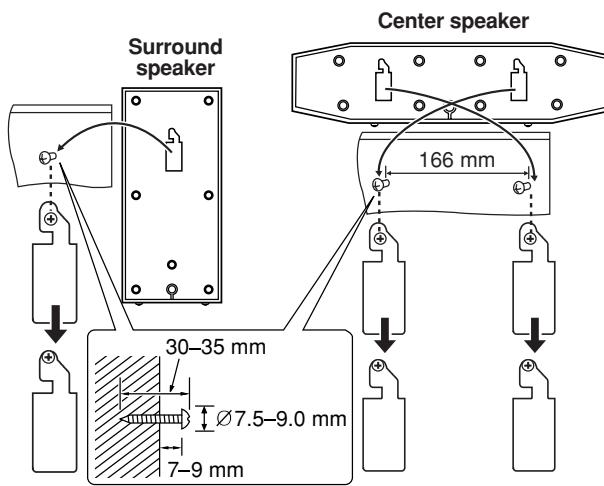
STEP 1 Positioning

Optimum location
Distance: A=B=C=D=E



Attaching to a wall

Surround and center speakers can be attached to walls. Set the speaker onto screws (not included) and slide through bracket to lock into position.



Note

The wall or pillar on which the speakers are to be attached should be capable of supporting 10 kg per screw.

Positioning for best effect

How you set up your speakers can affect the bass and the sound field. Note the following points.

- Place speakers on flat secure bases.
- Placing speakers too close to floors, walls, and corners can result in excessive bass. Cover walls and windows with a thick curtain.

Front speakers

VK91D VK81D

Speakers are designed identically so that no left or right channel orientation is necessary.

VK71D

Place the speakers so that the tweeter is on the outside.

Center speaker

- You can also put this speaker directly under the television.
- Vibration caused by the center speaker can disrupt the picture if it is placed directly on the television. Put the center speaker on a rack or shelf.

Surround speakers

The small speakers with the long cords are surround speakers. Place on either side of listening position, or slightly to the rear, about 1 meter higher than ear level with the Panasonic logo facing towards the listening position.

The effect varies with the type of music and music source.

Subwoofer(s) VK91D VK81D

Place to the right and left (VK91D) or right (VK81D) of the television, on the floor or a sturdy shelf so that it won't cause vibration. Leave 10 cm at the rear for ventilation.

Use only supplied speakers

Using other speakers can damage the unit and sound quality will be negatively affected.

Set the speakers up on an even surface to prevent them from falling. Take proper precautions to prevent the speakers from falling if you cannot set them up on an even surface.

Note

- The angles in the diagram are approximate.
- Keep your speakers at least 10 mm away from the system for proper ventilation.
- You cannot take the front net off the speakers.

Notes on speaker use

- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage.
 - When playing distorted sound.
 - When the speakers emit strange noise (howling) from a microphone or record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
 - When adjusting the sound quality.
 - When turning the unit on or off.

If irregular coloring occurs on your television

These speakers are designed to be used close to a television, but the picture may be affected with some televisions and set-up combinations.

If this occurs, turn the television off for about 30 minutes.

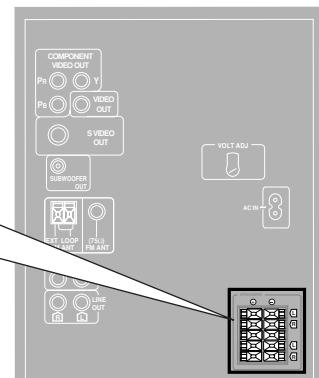
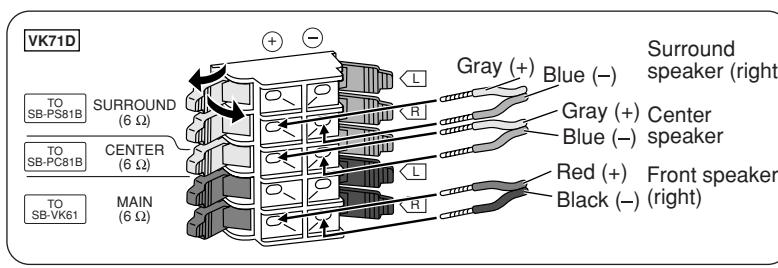
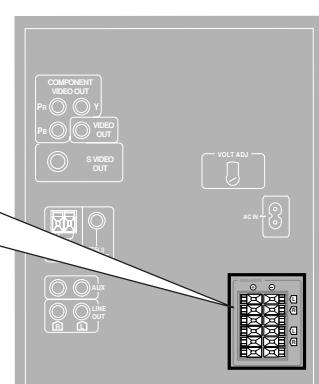
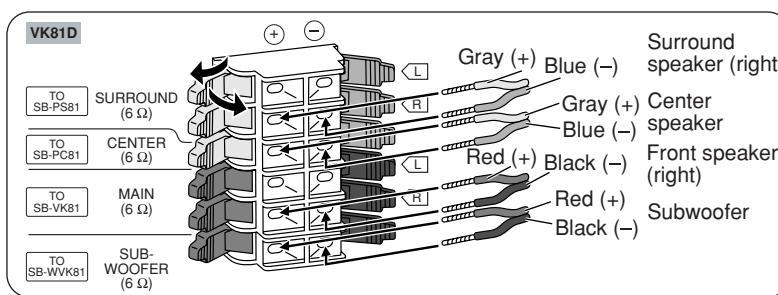
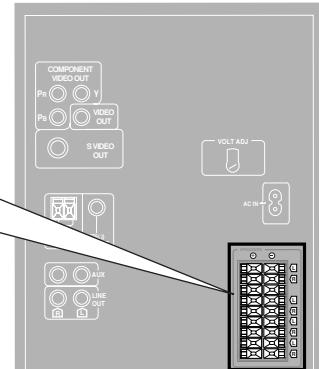
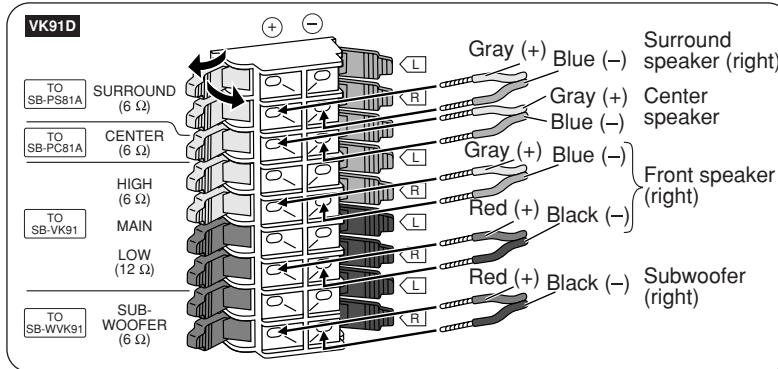
The television's demagnetizing function should correct the problem. If it persists, move the speakers further away from the television.

Caution

- Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
- Do not attempt to attach these speakers to walls using methods other than those described in this manual.

STEP 2 Speaker connections

Twist and pull off the vinyl tip of the speaker cords.



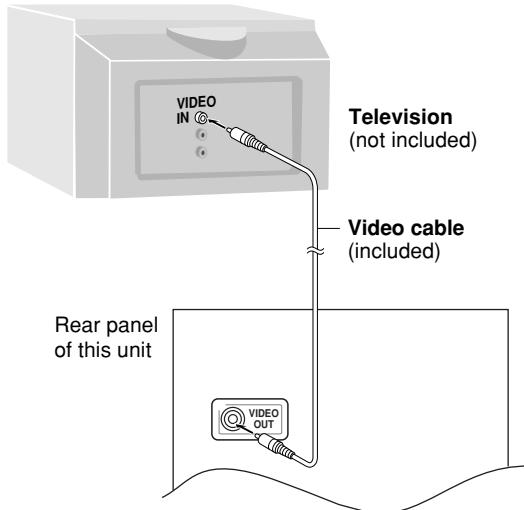
Note

Connect the left (L) side in the same way.

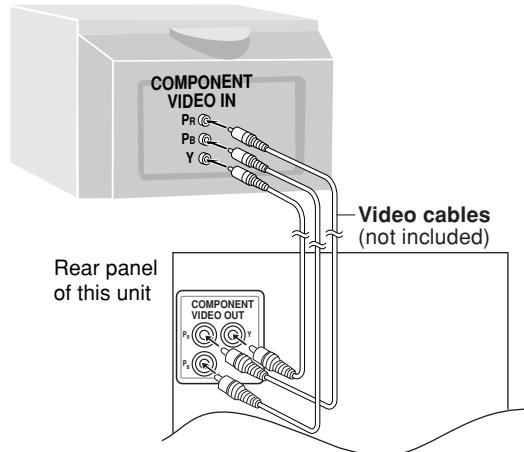
STEP 3

Video connections

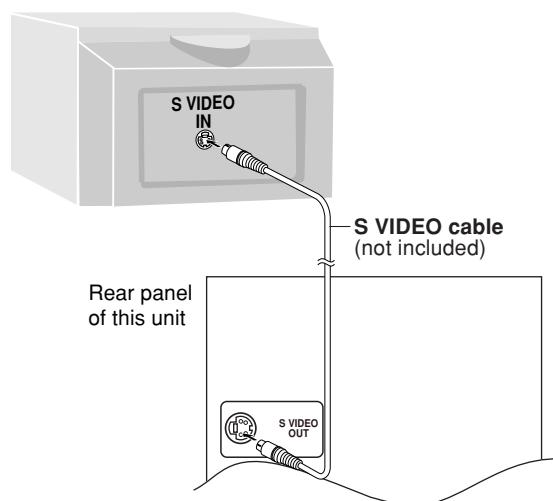
■ Connecting a television with a VIDEO IN terminal



■ Connecting a television with COMPONENT VIDEO IN terminals



■ Connecting a television with an S VIDEO IN terminal



Video cable



VIDEO OUT terminal

Do not connect the unit through a video cassette recorder, because the picture may not be played correctly due to the copy guard.

COMPONENT VIDEO OUT terminals

These terminals can be used for either interlace or progressive output and provide a purer picture than the S VIDEO OUT terminal. Connection using these terminals outputs the color difference signals (P_R/P_B) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colors. The description of the component video input terminals depends on the television or monitor (e.g. Y/P_B/P_R, Y/B-Y/R-Y, Y/C_B/C_R). Connect to terminals of the same color.

To enjoy progressive video

1. Connect to the component video input terminals on a 480P compatible television. (Video will not be displayed correctly if connected to an incompatible television.)
2. In QUICK SETUP, set "Progressive Out" to "Enable".
3. Change "Progressive" to "480P" (→ page 21, Picture Menu—Video Output Mode).
 - All televisions manufactured by Panasonic that have 480P input connectors are compatible. Consult the manufacturer if you have another brand of television.
 - If the unit is connected to the television through VIDEO OUT or S VIDEO OUT, output will be interlace, irrespective of the settings.

S VIDEO OUT terminal

The S VIDEO terminal achieves a more vivid picture than the VIDEO OUT terminal by separating the chrominance (C) and luminance (Y) signals. (Actual results depend on the television.)

STEP 4

Radio and power supply connections

Connect the AC power supply cord after all other connections are complete.

AM loop antenna

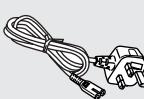


FM indoor antenna

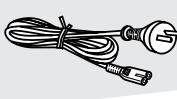


AC power supply cord

For Saudi Arabia and Kuwait



For Australia and N.Z.

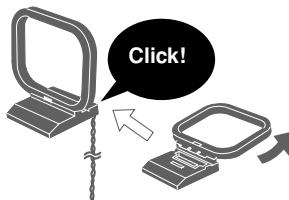


For others



AM loop antenna

Stand the antenna up on its base. Keep loose antenna cord away from other wires and cords.



FM indoor antenna

Fix the other end of the antenna where reception is best.

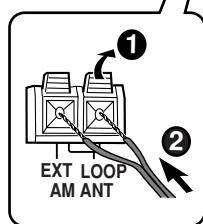
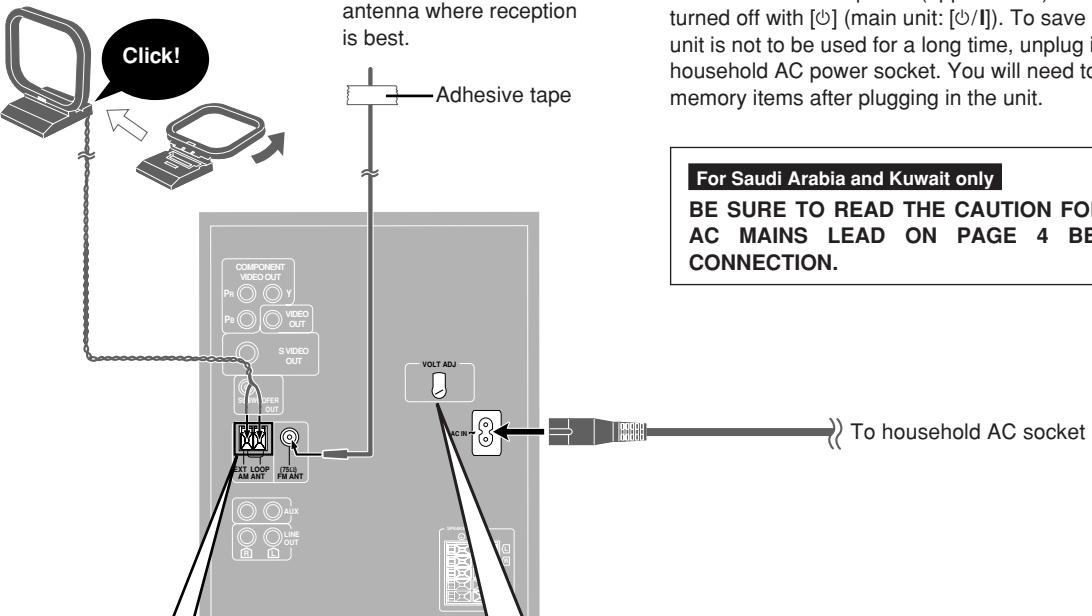


Conserving power

The unit consumes power (approx. 1 W) even when it is turned off with [Ø] (main unit: [Ø/II]). To save power when the unit is not to be used for a long time, unplug it from the household AC power socket. You will need to reset some memory items after plugging in the unit.

For Saudi Arabia and Kuwait only

BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 4 BEFORE CONNECTION.



For Saudi Arabia, Kuwait, the Middle East and Southeast Asia only

Before connecting the AC power supply cord, set the voltage.

Voltage Selector

Use a flat-head screwdriver to turn the voltage selector on the rear panel to the appropriate position for the area in which this system is used.

If the power supply in your area is 115 V or 120 V, please set the voltage selector as follows:

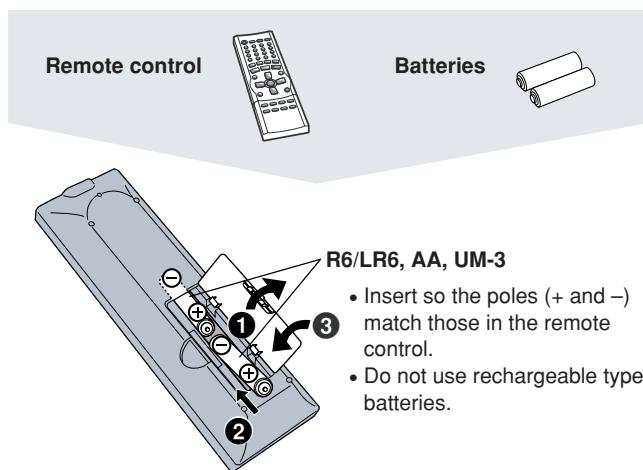
- For 115 V: Set to 110 V.
- For 120 V: Set to 127 V.

VOLT ADJ



127 V ↔ 110 V ↔ 220-230 V ↔ 240 V

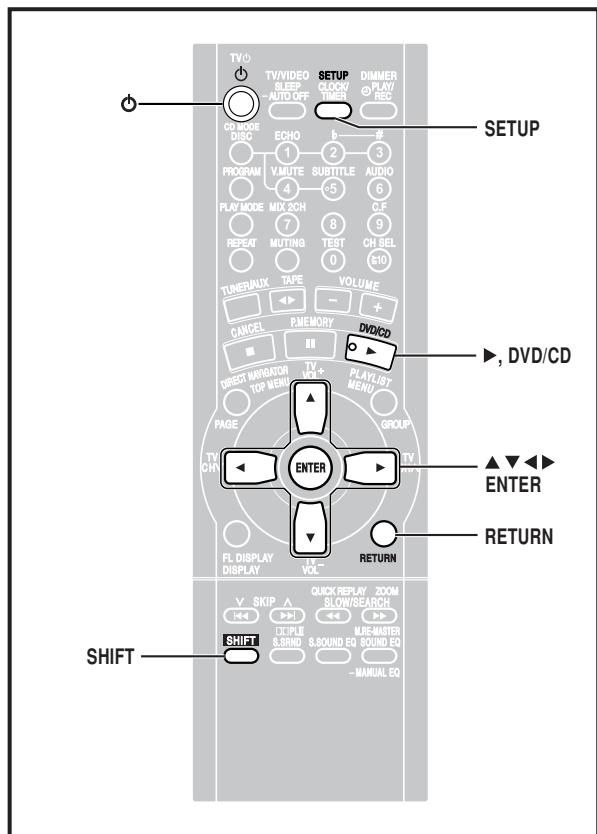
STEP 5 The remote control



STEP 6 QUICK SETUP

The **QUICK SETUP** screen assists you to make necessary settings.

Turn on the television and select the appropriate video input on the television.



Do not;

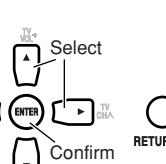
- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart or short circuit.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.

Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

Use

Point at the sensor, avoiding obstacles, at a maximum range of 7m directly in front of the unit.

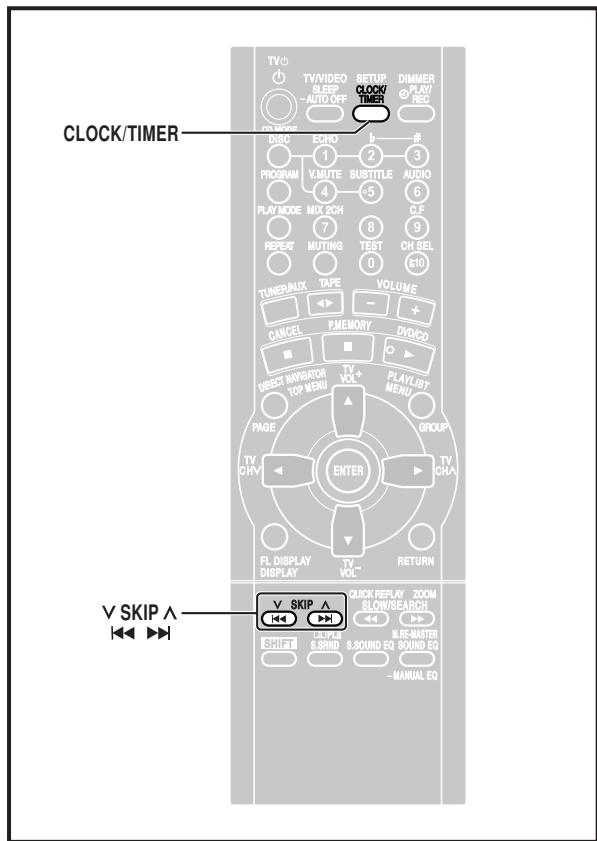
 <p>1</p>	 <p>2</p>	 <p>3</p>
<p>Turn the unit on.</p>	<p>Select "DVD/CD".</p>	<p>Shows QUICK SETUP screen.</p>
 <p>4</p> <p>Follow the messages and make the settings.</p>	 <p>5</p> <p>Press to finish QUICK SETUP.</p>	 <p>6</p> <p>Press to exit.</p>

To change these settings later

Select “QUICK SETUP” in “Others” tab (→ page 23).

STEP 7

Setting the time



This is a 24-hour clock.

1



Select
"CLOCK".

2



Set the time
(press within 7
seconds or so).

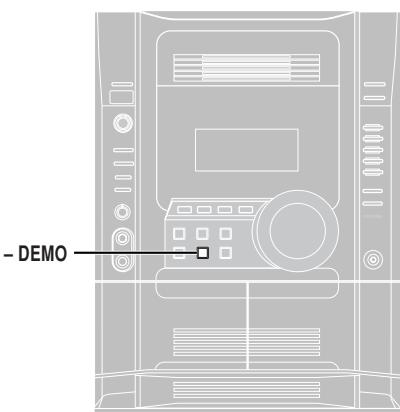
3



Press to finish
setting the time.

- The time is shown for about 5 seconds when you select "CLOCK" again.
- Reset the clock regularly to maintain accuracy.

DEMO function



When the unit is first plugged in, a demonstration of its functions may be shown on the display.

If the demo setting is off, you can show a demonstration by turning on the demo.

Press and hold [-DEMO].

The display changes each time the button is held down.

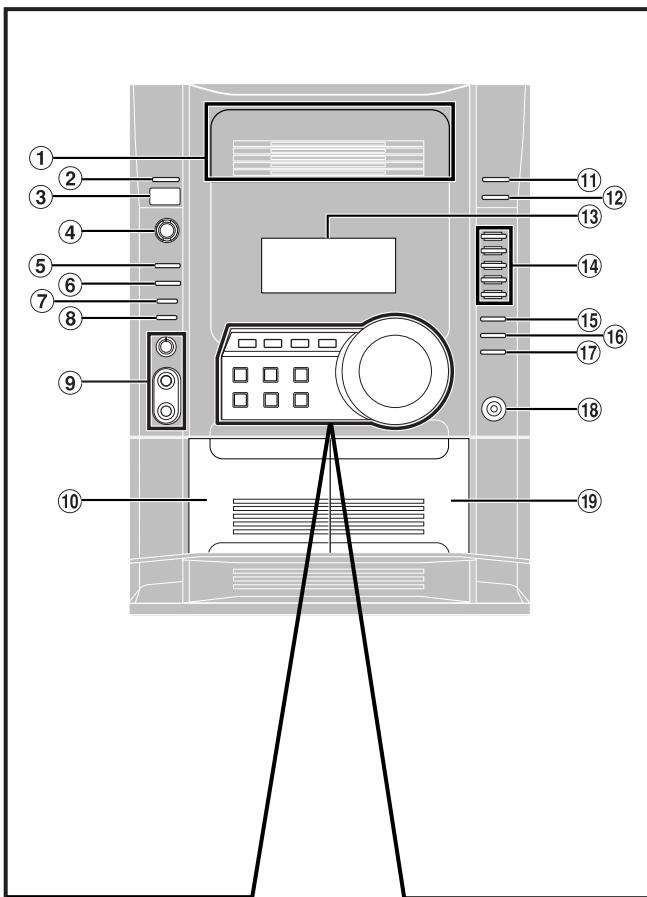
NO DEMO (off) \leftrightarrow **DEMO ON** (on)

You can reduce the power consumed in standby mode by turning the demonstration off.

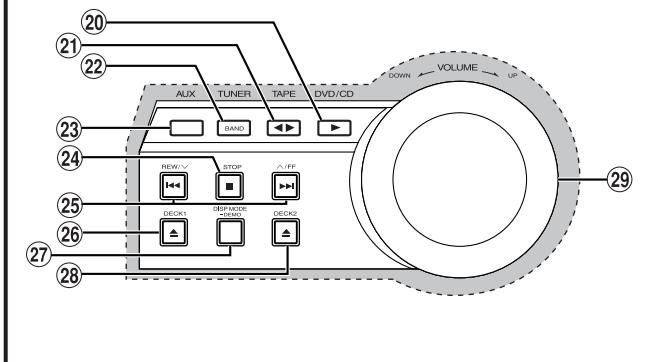
Control reference guide

Getting started

Main unit



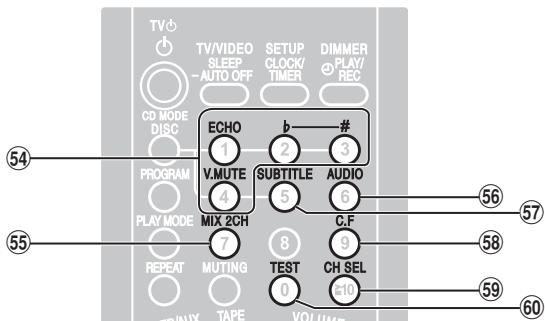
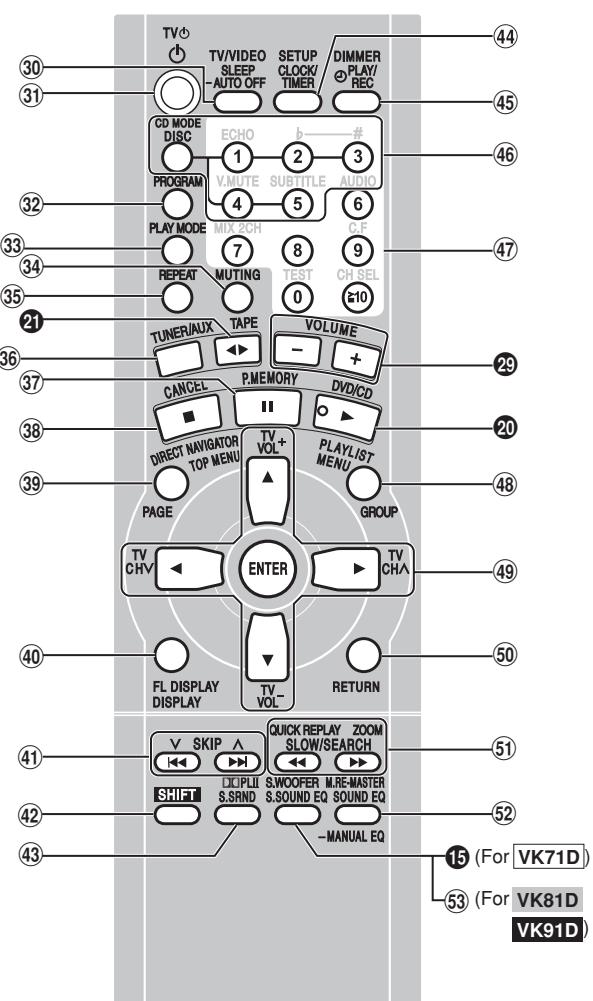
① Disc trays
② Disc check button [DISC CHECK] 15
③ Remote control signal sensor
④ AC supply indicator [AC IN]
 This indicator lights when the unit is connected to the AC mains supply.
Standby/on switch [Φ/I]
 Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
⑤ Multi re-master button [MULTI RE-MASTER] 27
⑥ Super surround button [SUPER SURROUND] 26
⑦ Deck 1/2 selection button [DECK 1/2] 25
⑧ Record button [● REC] 28
⑨ For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia
 Microphone volume control [MIC VOL MIN, MAX] 30
 Microphone jacks [MIC 1, 2] 30
⑩ Deck 1 cassette holder 25
⑪ Disc tray open/close button [OPEN/CLOSE ▲] 14
⑫ Disc change button [DISC CHANGE ▲] 15
⑬ Display
⑭ DVD/CD direct play buttons [1–5] 15
⑮ Super sound EQ button [SUPER SOUND EQ] 27
⑯ Sound EQ button [SOUND EQ] 27
⑰ VK91D VK81D Subwoofer button [SUBWOOFER] 27
⑱ Headphones jack [PHONES] 32
⑲ Deck 2 cassette holder 25



Center console

⑳ DVD/CD play button [▶, DVD/CD] 10
㉑ Tape play/direction button [◀▶, TAPE] 25
㉒ Tuner/band select button [BAND, TUNER] 24
㉓ AUX button [AUX] 34
㉔ Stop button [■, STOP] 14
㉕ Disc skip/search/slow-motion play, tape fast-forward/rewind, tune/preset channel select, time adjust buttons [◀◀, REW/V, ▶▶, FF] 14, 24, 25
㉖ Deck 1 open button [▲, DECK1] 25
㉗ Display mode, demonstration button [DISP MODE, -DEMO] 11, 33
㉘ Deck 2 open button [▲, DECK2] 25
㉙ Volume control [VOLUME DOWN, UP] 14

Remote control



Buttons such as 15 function in exactly the same way as the buttons on the main unit.

30 Sleep timer, Auto off, TV/Video input mode select button [SLEEP, -AUTO OFF, TV/VIDEO] 29, 32

31 Standby/on, TV power on/off button [\ominus , TV \ominus] 10, 32

32 Program button [PROGRAM] 17, 24

33 Play mode select button [PLAY MODE] 17, 24, 25

34 Muting button [MUTING] 32

35 Repeat button [REPEAT] 17

36 Tuner/aux button [TUNER/AUX] 24, 34

37 Pause, Position memory button [II, P. MEMORY] 14, 16

38 Stop, Cancel button [■, CANCEL] 14, 17, 25

39 Top menu, Direct navigator, Page button [TOP MENU, DIRECT NAVIGATOR, PAGE] 15 – 19

40 Display, FL display button [DISPLAY, FL DISPLAY] .. 15, 18, 20

41 Disc skip, tape fast-forward/rewind, preset channel select, time adjust buttons [$\blacktriangleleft\blacktriangleright$, $\blacktriangleright\blacktriangleleft$, \vee SKIP \wedge] 11, 14, 24, 25, 29

42 Shift button [SHIFT]
To use functions labeled in orange:
While pressing [SHIFT], press the corresponding button.

43 Super Surround, Dolby Pro Logic II button [S.SRND, $\square\ominus$ PLII] 26

44 Clock/timer, Setup button [CLOCK/TIMER, SETUP] 10, 11, 22, 29

45 Play timer/record timer, Dimmer button [\ominus PLAY/REC, DIMMER] 29, 32

46 Disc select, CD mode button [DISC, CD MODE],
Disc button [1 – 5] 15, 16

47 Numbered buttons [0 – 9, \geq 10] 15

48 Menu, Playlist, Group button [MENU, PLAYLIST, GROUP] 15, 18, 19

49 Cursor buttons [$\blacktriangleleft\blacktriangleright$, $\blacktriangledown\blacktriangleup$, $\blacktriangleright\blacktriangleleft$], Enter button [ENTER] 10, 14, 15, 27

These buttons have the following functions.

[$\blacktriangleleft\blacktriangleright$] : TV volume buttons [TV VOL +, TV VOL -] 32

[$\blacktriangleleft\blacktriangleright$] : TV channel select buttons [TV CH \vee , TV CH \wedge] 32

50 Return button [RETURN] 10, 15, 16

51 Slow/search, Tuning buttons [$\blacktriangleleft\blacktriangleright$, $\blacktriangleright\blacktriangleleft$, SLOW/SEARCH] 14, 18, 24

These buttons have the following functions.

[$\blacktriangleleft\blacktriangleright$] : Quick replay button [QUICK REPLAY] 16

[$\blacktriangleright\blacktriangleleft$] : Zoom button [ZOOM] 16

52 Sound EQ, Manual EQ, Multi re-master button [SOUND EQ, -MANUAL EQ, M.RE-MASTER] 27

53 **VK91D** **VK81D** Super Sound EQ, Subwoofer button [S.SOUND EQ, S.WOOFER] 27

54 For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia

Echo button [ECHO] 31

Key control buttons [\flat , \sharp] 31

Vocal mute button [V. MUTE] 30

55 2 channel down-mixing button [MIX 2CH] 26

56 Audio button [AUDIO] 16, 30, 31

57 Subtitle button [SUBTITLE] 15, 16

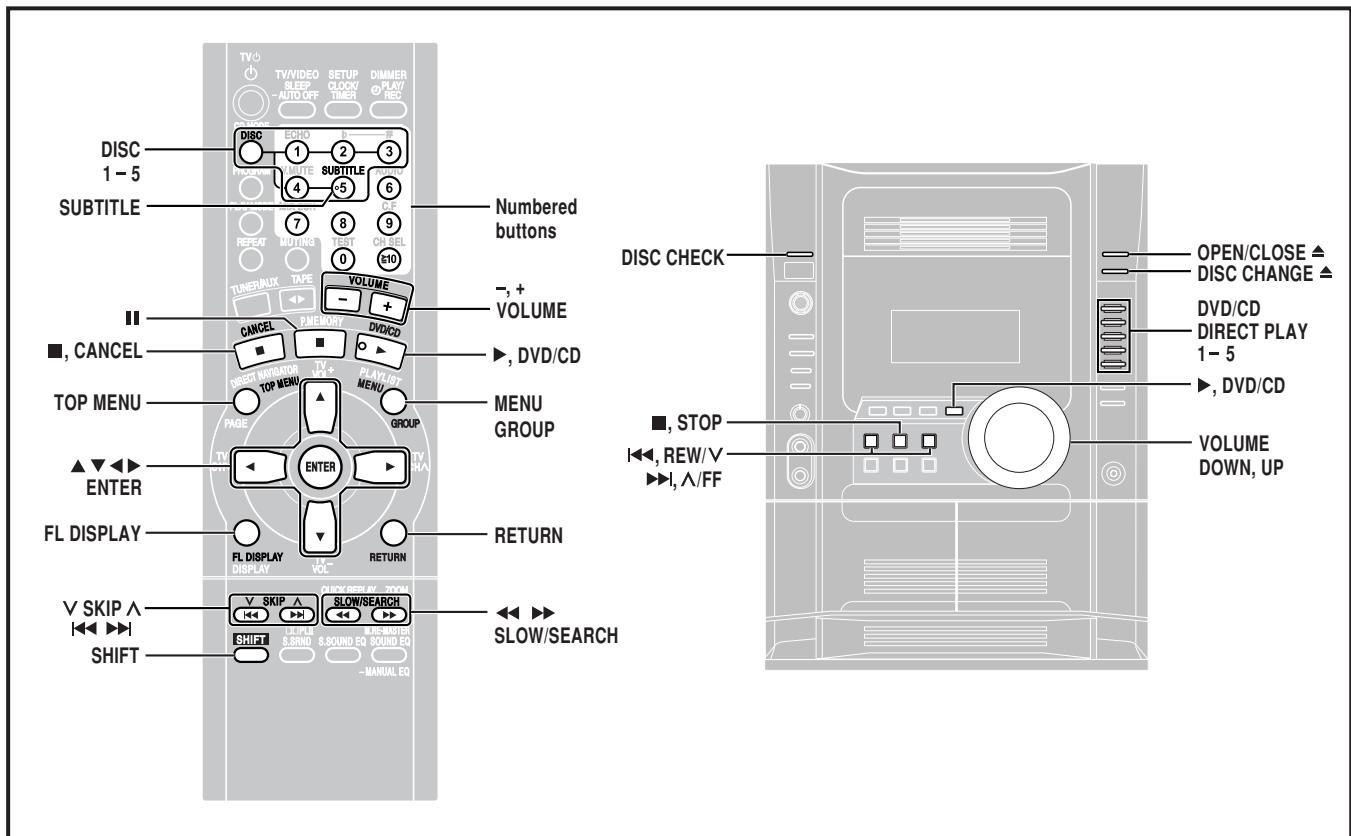
58 Center focus button [C.F] 26

59 Channel select button [CH SEL] 27

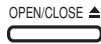
60 Test signal button [TEST] 27

Discs — Basic play

Disc operations



1



Open the disc tray.

- The unit turns on automatically and a tray opens.

2

Place a disc in the disc tray.

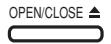
- Load double-sided discs so the label for the side you want to play is facing up. (→ page 35, Tray/disc handling procedure)

RAM



- Remove TYPE 2 and 4 discs from their cartridges before use.
Read the instructions for the disc carefully.

3



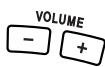
Close the disc tray.

4



Start play.

Volume adjustment



The stopped play position is memorized when "RESUME" is displayed.

- Press [▶, DVD/CD] to resume.
DVD-V To review the previous chapters
(→ page 16, Position memory).
- Press [■] to clear the position.

Stop

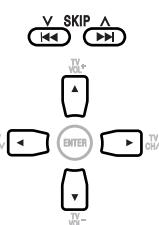


Pause



- Press [▶, DVD/CD] to start play.

Skip



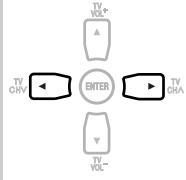
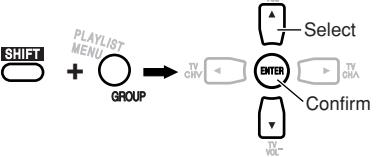
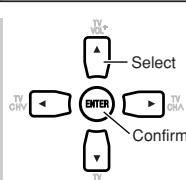
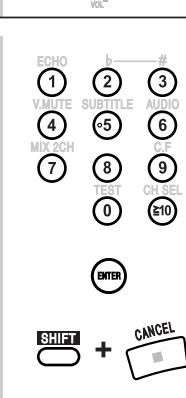
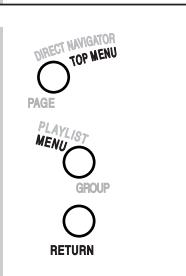
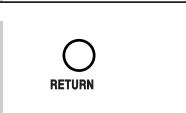
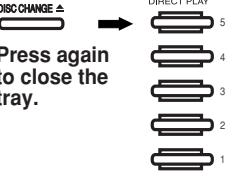
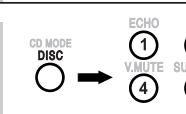
- **WMA MP3 JPEG**
[▲, ▼]: Group skip during play.
[◀, ▶]: Content skip during play.

Search (during play)



Slow-motion (during pause)

- Up to 5 steps.
- Press [▶, DVD/CD] to start play.
- **DVD-A** Motion picture parts only.
- **VCD** Slow motion, forward direction only.

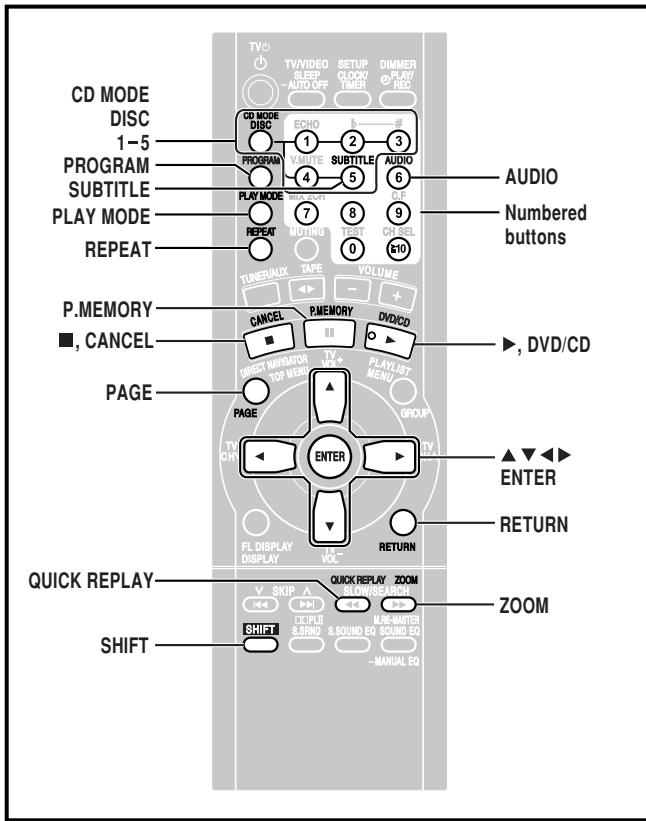
Frame-by-frame (during pause)	 <ul style="list-style-type: none"> • DVD-A Motion picture parts only. • VCD forward direction only. • Pressing [II] also activates forward direction. 	Starting play from a selected group	DVD-A WMA MP3 JPEG A folder on WMA/MP3 and JPEG discs is treated as a "Group". 
On-screen item select			
Enter number	 <p>RAM DVD-A DVD-V VCD CD Example: To select 12: $\geq 10 \rightarrow [1] \rightarrow [2]$ VCD with playback control While stopped, press the numbered buttons. WMA MP3 JPEG Example: To select 123: [1] \rightarrow [2] \rightarrow [3] \rightarrow [ENTER] SHIFT + CANCEL • Press [SHIFT]+[CANCEL] to cancel the number(s).</p>	Main unit's display	 <p>(\rightarrow page 32, Changing the main unit's display)</p>
Disc menu	 <p>DVD-A DVD-V Shows a disc top menu. DVD-V Shows a disc menu. VCD Shows a disc menu.</p>	Information screen	 <p>WMA MP3 JPEG CD (CD text only) Turns the information screen on or off.</p>
Return to previous screen		Changing a disc in the desired tray	 <p>Press again to close the tray. • You can also remove a disc while another is playing.</p>
Selecting the disc		Checking the disc location	 <p>Press again to close the tray. • This feature lets you check whether a 12 cm disc is in a tray. • If a disc is being played, the corresponding tray will not open. • Do not remove or insert discs during a disc check. • Do not pull out the trays during a disc check.</p>

Note

- If “15

Discs — Convenient functions

Disc operations



Position Memory

(Only when the elapsed play time can be displayed)

JPEG: Works with all JPEG contents.)

This position is memorized even after switching off the unit or changing the disc.

During play

Press [SHIFT] + [P.MEMORY].

Position memorized

- Up to 5 discs.
- When the sixth disc is memorized, the earliest position is replaced.
- After changing the source or selecting another disc, re-selecting the disc tray with the memorized position automatically starts playback.

When the unit is switched on in "DVD/CD" mode or reinsert the disc whose position you memorized, "RESUME" lights on the display.

Press [▶, DVD/CD] to start play from that position.

To review the previous chapters **DVD-V**

Press [▶, DVD/CD] while one of the following messages is on the display.

Press PLAY to preview chapters

or

Press PLAY to Chapter Review

- Do not press [▶, DVD/CD] if you want to cancel review.

Page skip

DVD-A

During play or while paused

Press [SHIFT] + [PAGE].

The page changes each time you do this.

- Press [RETURN] to go back to page 1.

CD mode

VCD **CD** **WMA** **MP3**

The unit usually plays the disc in the play position and then stops. Turn CD mode on to play all loaded discs, except for DVDs and JPEG discs.

While stopped

Press [SHIFT] + [CD MODE].

Every time you press the button:

CD MODE ON \longleftrightarrow **CD MODE OFF**

Note

- HighMAT menus and video CD playback control are disabled.
- Only audio tracks can be played on HighMAT discs.
- You cannot change the mode during play.
- CD Mode turns off when you switch the unit to standby.

Zoom

RAM **DVD-A** (Motion picture parts only) **DVD-V** **VCD**

Press [SHIFT] + [ZOOM] several times to select the preset aspect ratio or "Auto". (Just Fit Zoom)

<input checked="" type="checkbox"/> Menu
Just Fit Zoom x1.00

Fine adjustments (Manual Zoom)

Press [◀, ▶].

- from x1.00 to x1.60 (in 0.01 units)
- from x1.60 to x2.00 (in 0.02 units)
- Press and hold [◀, ▶] to alter faster.

Audio

RAM **DVD-A** **DVD-V** (with multiple soundtracks) **VCD**

Press [SHIFT] + [AUDIO] several times to select the soundtrack.

Example: **DVD-V**

<input checked="" type="checkbox"/> Menu
Audio 1

RAM **VCD**

You can also use this button to select "L", "R" or "L R".

DVD-V (Karaoke discs)

Press [◀, ▶] to select "On" or "Off" of vocals. Read the disc's instructions for details.

Subtitle

RAM (On or Off only)

DVD-V (with multiple soundtracks) **VCD** (SVCD only)

Press [SHIFT] + [SUBTITLE] several times Example: **DVD-V** **to select the subtitle language.**

<input checked="" type="checkbox"/> Menu
Subtitle Off

To clear or display the subtitles

Press [◀, ▶] to select "On" or "Off".

Quick replay

(Only when the elapsed play time can be displayed.)

Press [SHIFT] + [QUICK REPLAY] to skip back a few seconds.

Note

This feature may not work while playing some parts of a disc or at all with some discs.

Play mode functions

DVD-A **DVD-V** **VCD** **CD** **WMA** **MP3** **JPEG**

Common procedures for all group and random play

While stopped

Press **[PLAY MODE]**.

Every time you press the button:

DVD-A **DVD-V** **WMA** **MP3** **JPEG**

ALL GRP (All group-**DVD-A**) → GRP RND/RND (Random)

↑ off (Normal play) ←

VCD **CD** (There is no on-screen display.)

1 DISC RND (Random) → ALL DISC RND (Random)

↑ off (Normal play) ←

DVD-A

If you select bonus groups, you will have to enter a password.

All group play

DVD-A

The unit plays tracks in all the groups on a disc.

Press **[▶, DVD/CD]**.

Random play

VCD **CD** (There is no on-screen display.)

1 DISC RND: You can play all the items on a disc in the play position in random order.

ALL DISC RND: You can play all the items on all the discs in random order.

DVD-A **DVD-V** **WMA** **MP3** **JPEG**

You can play selected item(s) on a disc in the play position in random order.

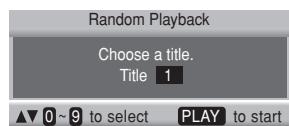
While stopped

1 Press **[PLAY MODE]**.

2 **DVD-A** **DVD-V** **WMA** **MP3** **JPEG**

Press the numbered buttons to select a group (**WMA** **MP3** **JPEG** then press **[ENTER]**) or a title.

Example: **DVD-V**



DVD-A

- You can select more than one group or all groups.
- To deselect a group, select the group again.

3 Press **[▶, DVD/CD]**.

- You can play a maximum of 999 audio/picture contents in random order.

Note

- During random play, empty trays are skipped and the playback control function on Video CDs is canceled.

Program play (up to 24 items)

VCD **CD** (There is no on-screen display.)

You can program all the items on all discs.

DVD-A **DVD-V** **WMA** **MP3** **JPEG**

You can program all the items on a disc.

While stopped

1 Press **[PROGRAM]**.

"PGM" appears.

2 **VCD** **CD**

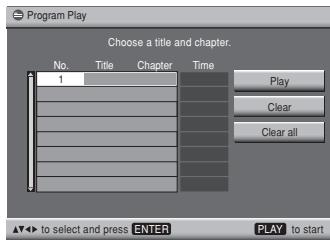
Press **[DISC]** and then disc button ([1] – [5]).

3 Press the numbered buttons to select the items (**WMA** **MP3** **JPEG** then press **[ENTER]**).

- Repeat this step to program other items.

- **VCD** **CD** Step 2 is unnecessary when programming tracks on the same disc.

Example: **DVD-V**



• **DVD-A** **DVD-V** **WMA** **MP3** **JPEG**

To select an item using the cursor buttons

Press **[ENTER]** and **[▲, ▼]** to select an item, then press **[ENTER]** again to confirm the number.

All the items on the disc, title or group are selected when you select "ALL".

4 Press **[▶, DVD/CD]** to play.

To change or clear the program

DVD-A **DVD-V** **WMA** **MP3** **JPEG**

Press **[▲, ▼]** to select an item.

– To change an item, repeat step 3.

– To clear an item, press **[SHIFT]+[CANCEL]** (or select "Clear" and press **[ENTER]**).

• Press **[SHIFT]+[PAGE]** to skip a few lines at a time.

VCD **CD**

Every time **[SHIFT]+[CANCEL]** is pressed, the displayed item is cleared.

To clear the whole program

DVD-A **DVD-V** **WMA** **MP3** **JPEG**

Press **[▲, ▼, ▲, ▶]** to select "Clear all" and press **[ENTER]**.

VCD **CD**

While stopped, press **[■]** to clear all.

Note

- Clear the existing program before creating a new program.

• **DVD-V** **WMA** **MP3** **JPEG**

Times are not displayed while programming.

• **VCD** **CD**

Items the unit cannot find can be programmed but are canceled during play. This is also the case if you program the discs other than Video CD and CD.

• **DVD-A** **DVD-V** **WMA** **MP3** **JPEG**

The program is cleared when you switch the unit to standby, select another source, exit the program mode or move the disc out of the play position.

VCD **CD**

The program is retained in memory.

Repeat play

(Only when the elapsed play time can be displayed)

JPEG: Works with all JPEG contents.)

During play

Press **[REPEAT]** to select an item to be repeated.

When CD mode is off (→ page 16)

RAM

PG REPEAT*1 → ALL REPEAT (Entire Disc) → REPEAT OFF

• During playlist play SCENE REPEAT → PL REPEAT*2 → REPEAT OFF

DVD-V

CHAPTER REPEAT → TITLE REPEAT*3 → REPEAT OFF

VCD

CD (There is no on-screen display.) TRACK REPEAT → ALL REPEAT (Entire disc) → REPEAT OFF

DVD-A

TRACK REPEAT → GROUP REPEAT*3 → REPEAT OFF

WMA

MP3 (There is no on-screen display.)

CONTENT REPEAT → GROUP REPEAT*3 → REPEAT OFF

JPEG

(There is no on-screen display.) GROUP REPEAT*3 → REPEAT OFF

• You can also repeat play of content and group on HighMAT discs.

When CD mode is on (→ page 16)

VCD

CD WMA MP3 ALLDISC RPT*4 → REPEAT OFF

To repeat only your favorite tracks, contents or chapters

Start program play (→ see left, Program play (up to 24 items)) and press **[REPEAT]** to select the repeat mode.

*1 Program repeat (→ page 19, Playing the programs).

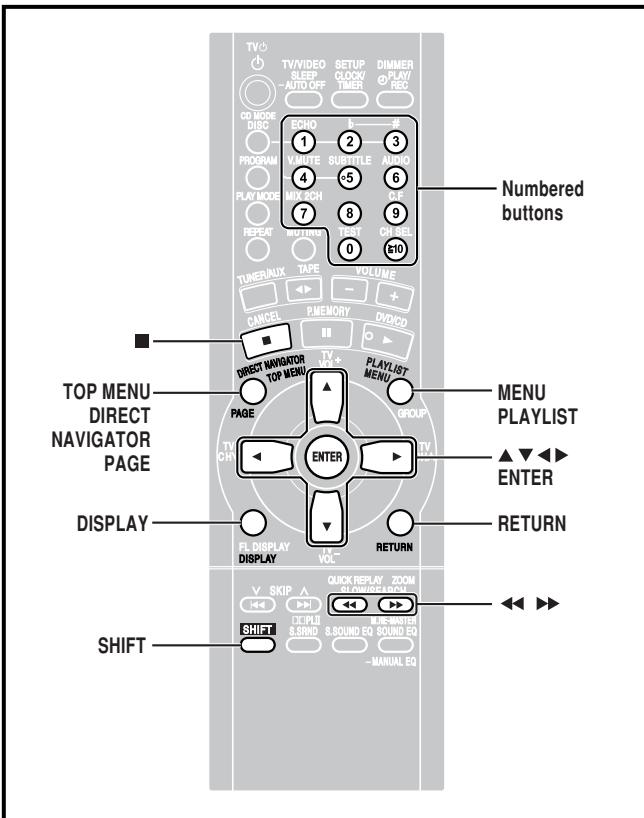
*2 Playlist repeat (→ page 19, Playing a playlist).

*3 During all group (**DVD-A**), program and random play

"ALL REPEAT" is displayed.

*4 All-disc repeat.

Discs — Using navigation menus



Playing data discs

WMA **MP3** **JPEG**

You can play JPEG files on DVD-RAM or play HighMAT discs without using the HighMAT function (→ page 21, "Play as Data Disc" in Other Menu).

■ Using playback menus (except JPEG files on DVD-RAM)

1 Press [TOP MENU].

2 Press [Δ , ∇] to select "All", "Audio" or "Picture" and press [ENTER].

- To exit the screen

Press [TOP MENU].

Using navigation menus

WMA **MP3** **JPEG**

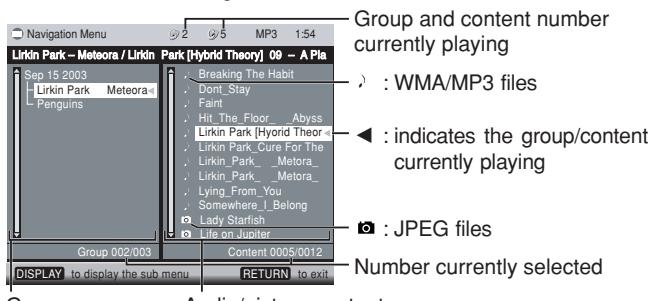
1 Press [MENU].

2 Press [Δ , ∇ , \blacktriangleleft , \blacktriangleright] to select the group or audio/picture content and press [ENTER].

- After listing all the contents in one group, the list for the next group appears.

Example:

WMA **MP3** **JPEG** Navigation menu



Group

Audio/picture contents

Using a content screen to find a track

CD (CD text only)

1 Press [TOP MENU] or [MENU] to display the content screen.



2 Press [Δ , ∇] to move through the tracks and press [ENTER].

- Press [SHIFT]+[PAGE] to skip a few lines at a time.

Using the submenu

WMA **MP3** **JPEG**

1 While the menu is displayed

Press [DISPLAY].

Items shown differ depending on the type of software.

Multi	Groups and contents
List	Contents only
✓Tree	Groups only
Thumbnail	Thumbnail images JPEG
Next group	To go to next groups WMA MP3
Previous group	To go to previous groups WMA MP3
All	WMA/MP3 and JPEG files
✓Audio	WMA/MP3 files only
Picture	JPEG files only
✓Help display	To switch between guide messages and the elapsed play time indicator
Find	To search by content or group title (→ see below)

2 Press [Δ , ∇] to select the submenu and press [ENTER].

■ Searching by content or group title **WMA** **MP3** **JPEG**

Place the cursor on the group title to search for a group, or place the cursor on the content title to search for contents.

1 Select "Find" (→ see above).

*A Find

2 Press [Δ , ∇] to select a character and press [ENTER].

- Repeat to enter other characters.
- Lower case is also searched.
- Press [\blacktriangleleft , \blacktriangleright] to skip between A, E, I, O, and U.
- Press [\blacktriangleleft] to erase a character.
- Erase the asterisk (*) to search only for the titles starting with that word.

3 Press [\blacktriangleright] to select "Find" and press [ENTER]. The search results screen appears.

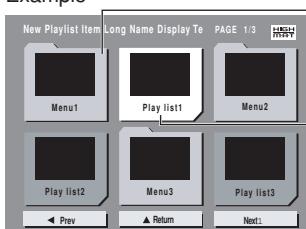
4 Press [Δ , ∇] to select the content or group and press [ENTER].

Playing HighMAT discs

WMA **MP3** **JPEG**

- 1 While stopped
Press [TOP MENU].
- 2 Press [Δ , ∇ , \leftarrow , \rightarrow] to select the item following the on-screen instructions.

Example



Menu: Take you to the next menu which shows playlists or another menu

Playlist: play starts

- To change the menu background

Press [DISPLAY].

The background changes to the one recorded on the disc.

- To return to the menu above the current one

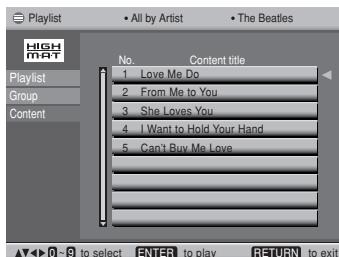
Press [RETURN].

- To exit the screen

Press [■].

Selecting from the list

- 1 During play
Press [MENU].



• All by Artist • The Beatles

- 2 Press [\leftarrow] then [Δ , ∇] to switch among Playlist, Group and Content lists.

- 3 Press [\rightarrow] then [Δ , ∇] to select an item and press [ENTER].

• Press [SHIFT]+[PAGE] to skip a few lines at a time.

- To exit the screen

Press [MENU].

Tips for making WMA/MP3, CD text and JPEG discs

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.

Naming folders and files

At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times). Files must have the extension:

“.WMA” or “.wma”
“.MP3” or “.mp3”
“.JPG”, “.jpg”, “.JPEG” or “.jpeg”

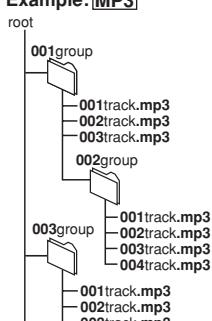
WMA

- You cannot play WMA files that are copy protected.

MP3

- This unit is not compatible with ID3 tags.
- Compatible sampling rate: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1 and 48 kHz.

Example: MP3



JPEG

• To view JPEG files on this unit:

- Take them on a digital camera that meets the DCF (Design rule for Camera File system) Version 1.0. Some digital cameras have functions that are not supported by the DCF Standard Version 1.0 like automatic picture rotation which may render a picture unviewable.
- Do not alter the files in any way or save them under a different name.
- This unit cannot display moving pictures, Motion JPEG and other such formats, still pictures other than JPEG (example: TIFF) or play associated sound.

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.



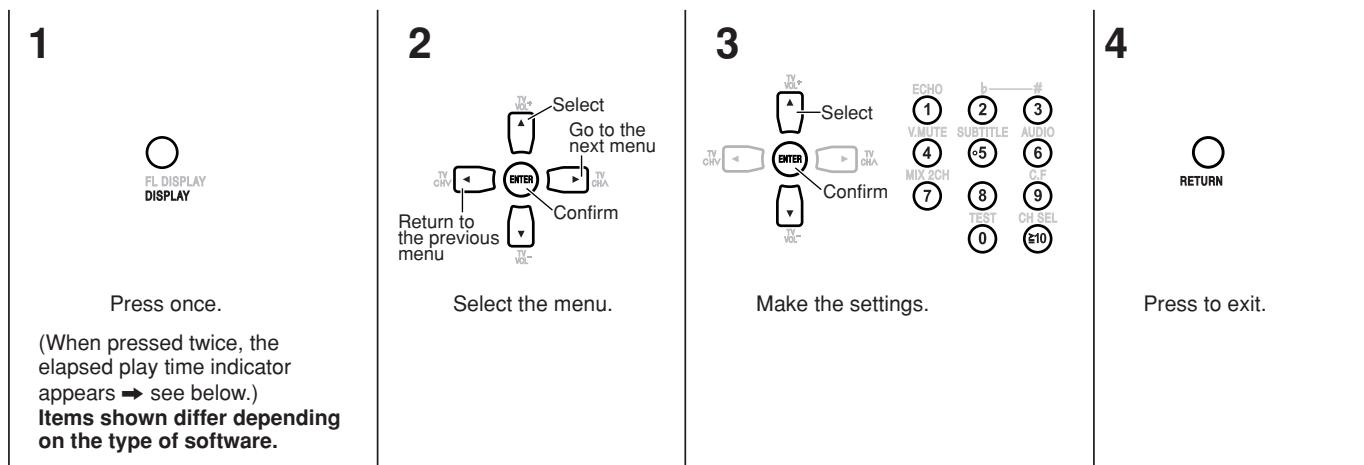
MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.



HighMAT and the HighMAT logo are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Discs — Using on-screen menus

(Refer to page 13 for remote control buttons' positions)

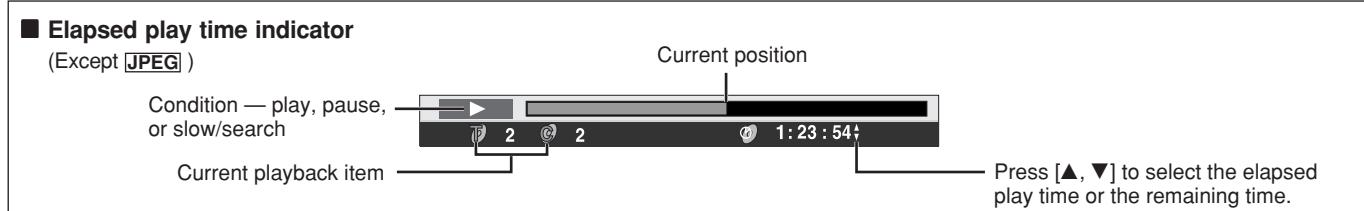


Disc operations

Main Menu

Program Group	To start from a specific item
Title	
Chapter	
Track	
Playlist	
Content	
Time	<p>To skip the time forward or backward (Time Slip) 1 Press [ENTER] twice to show Time Slip indicator. 2 Press [Δ, ∇] to select the time and press [ENTER]. • Press and hold [Δ, ∇] to alter faster.</p> <p>To start from a specific time (Time Search) To change remaining/elapsed time display</p>
Audio	<p>(→ page 16)</p> <p>WMA MP3 To display the current bitrate or sampling frequency</p>

Still Picture	To switch still picture
Thumbnail	To show thumbnail images
Subtitle	(→ page 16)
Marker (VR)	<p>RAM To recall a marker recorded on DVD-Video recorders To recall a marker: [Δ, ∇] → [ENTER]</p>
Angle	(Discs with multiple angles) <p>To select the angle</p>
Rotate Picture	To rotate pictures
Slideshow	<p>To turn the slideshow on or off To change the slideshow timing (0–30 sec)</p>



Other Settings

Play Speed	RAM DVD-A (Motion picture parts only) DVD-V To change play speed – from x0.6 to x1.4 (in 0.1 unit steps) • After you change the speed – Output is in stereo. – Sampling frequency of 96 kHz is converted to 48 kHz.
------------	---

■ Play Menu	
Repeat	RAM (Motion picture parts only) DVD-A DVD-V (→ page 17)
A-B Repeat	Except RAM (Still picture part) JPEG To repeat a specified section Press [ENTER] at the starting and ending points. Press [ENTER] again to cancel.

Marker	Except RAM To mark up to 5 positions to play again [ENTER] (The unit is now ready to accept markers.) To mark a position: [ENTER] (at the desired point) To mark another position: [Δ , ∇] → [ENTER] To recall a marker: [Δ , ∇] → [ENTER] To erase a marker: [Δ , ∇] → [SHIFT]+[CANCEL] • This feature does not work during program and random play.
--------	---

■ Picture Menu

Picture Mode	Normal Cinema1: Mellows images and enhances detail in dark scenes. Cinema2: Sharpens images and enhances detail in dark scenes. Animation Dynamic User (Press [ENTER] to select "Picture Adjustment") (→ see below)
	Picture Adjustment Contrast Brightness Sharpness Color Gamma (Adjusts the brightness of dark parts.) Depth Enhancer Reduces the rough noise in the background to give a greater feeling of depth.
Video Output Mode	When playing NTSC discs • 480I (Interlace) ↔ 480P (Progressive)
Transfer Mode	If you have chosen "480P" (→ see above), select the method of conversion for progressive output to suit the type of material. Auto1 (normal): For viewing film material Auto2: For viewing film material (the same as Auto1, but able to convert 30-frame-per-second progressive video) Video: For video material

■ Audio Menu

Dolby Pro Logic II	(→ page 26)
Dialogue Enhancer	To make the dialogue in movies easier to hear DVD-V (Dolby Digital, DTS, MPEG, 3-channel or over, with the dialogue recorded in the center channel) On ↔ Off
Multi Re-master	(→ page 27)

■ Display Menu

Information	On ↔ Off (JPEG : Off, Date, Details)
Subtitle Position	0 to -60 (in 2 unit steps)
Subtitle Brightness	Auto, 0 to -7
4:3 Aspect	To select how to show images made for 4:3 aspect screens on a 16:9 aspect television. Normal: Horizontally stretches images. Auto: Expands 4:3 letterbox images to fill more of the screen. Other images appear in full in the center of the screen. Shrink: Images appear in the center of the screen. Zoom: Expands all images to fill the screen. If your television has a similar feature, use it instead for a better effect.
Just Fit Zoom	To select the appropriate screen size to fit your TV screen
Manual Zoom	To zoom in and out manually
Bitrate Display	RAM DVD-V VCD DVD-A (Motion picture parts only) On ↔ Off
GUI See-through	On ↔ Off
GUI Brightness	-3 to +3

■ Other Menu

Play as DVD-Video or Play as DVD-Audio	While stopped • Select "Play as DVD-Video" to play DVD-Video contents of DVD-Audio.
Play as DVD-VR, Play as HighMAT or Play as Data Disc	While stopped • Select "Play as Data Disc" to play JPEG files on DVD-RAM or to play HighMAT disc without using the HighMAT function.

Signal type/data

LPCM/PPCM/□□Digital/DTS/MPEG: Signal type

kHz: Sampling frequency

bit: Number of bits

ch: Number of channels

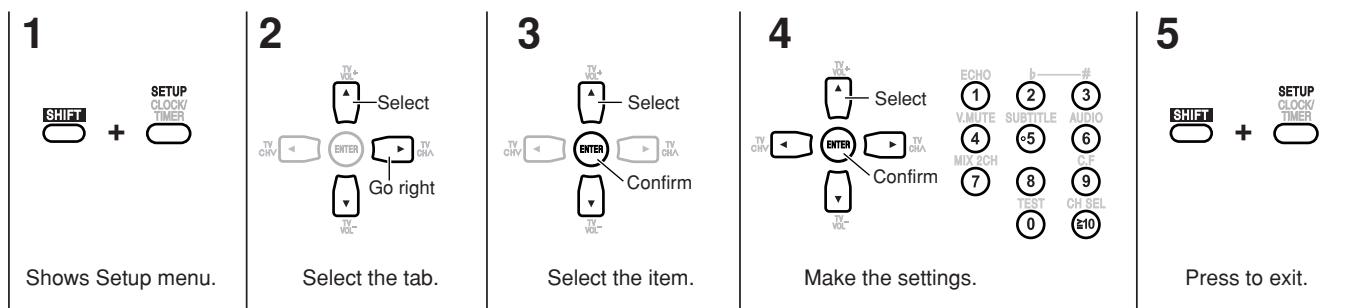
Example: 3/2.1ch

	.1: Low frequency effect (not displayed if there is no signal)
	0: No surround
	1: Mono surround
	2: Stereo surround (left/right)

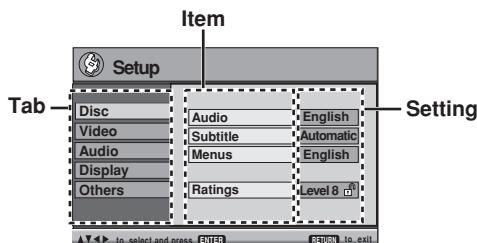
	1: Center
	2: Front left + Front right
	3: Front left + Front right + Center

Discs — Changing the player's setting

(Refer to page 13 for remote control buttons' positions)



Setup menu



- The settings remain intact even if you switch the unit to standby.
- Underlined items are the factory preset.

The QUICK SETUP enables successive settings of the items in the shaded area.

■ “Disc” tab

Audio Choose the audio language.	• <u>English</u> • (Language options) ^{*1} • Original ^{*2} • Other ***** ^{*3}
Subtitle Choose the subtitle language.	• <u>Automatic</u> ^{*4} • English • (Language options) ^{*1} • Other ***** ^{*3}
Menus Choose the language for disc menus. Changing the menu language from QUICK SETUP also changes this setting.	• <u>English</u> • (Language options) ^{*1} • Other ***** ^{*3}
Ratings Set a ratings level to limit DVD-Video play. • Follow the on-screen instructions.	Setting ratings (When level 8 is selected) • <u>8 No Limit</u> • 1 to 7 • 0 Lock All: To prevent play of discs without levels. Changing ratings (When level 0 to 7 is selected) • Unlock Player • Change Password • Change Level • Temporary Unlock

^{*1} Language options

^{*2} The original language designed on the disc is selected.

For Southeast Asia: Chinese

^{*3} Input a code number referring to the table on page 33.

For others: French, German, Italian, Spanish, Portuguese, Swedish and Dutch

^{*4} If the language selected for “Audio” is not available, subtitle appears in that language (if available on the disc).

■ “Video” tab

TV Aspect Choose the setting suit your television and preference.	• <u>4:3 Pan&Scan</u> : Regular aspect television (4:3) The sides of the widescreen picture are cut off so it fills the screen (unless prohibited by the disc). • <u>4:3 Letterbox</u> : Regular aspect television (4:3) Widescreen software is shown in the letterbox style. • <u>16:9</u> : Widescreen television (16:9)	 
Progressive Out (Component) Choose “Enable (NTSC Disc Only)” to enable progressive output.	• <u>Disable</u> • <u>Enable (NTSC Disc Only)</u>	
TV Type Select to suit the type of television.	• <u>Standard (Direct View TV)</u> • <u>CRT Projector</u> • <u>LCD TV/Projector</u> • <u>Projection TV</u> • <u>Plasma TV</u>	
Time Delay When connected with a Plasma display, adjust if you notice the audio is out of sync with the video.	• <u>0ms</u> • 20ms • 40ms • 60ms • 80ms • 100ms	
Still Mode Specify the type of picture shown when paused.	• <u>Automatic</u> • <u>Field</u> : The picture is not blurred, but picture quality is lower. • <u>Frame</u> : Overall quality is high, but the picture may appear blurred.	
NTSC Disc Output Choose PAL 60 or NTSC output when playing NTSC discs (→ page 5).	• <u>PAL60</u> : When connected to a PAL television. • <u>NTSC</u> : When connected to an NTSC television. (For Southeast Asia: “NTSC” is the factory preset)	

■ “Audio” tab

Dynamic Range Compression	<ul style="list-style-type: none"> Off On: Adjust for clarity even when the volume is low through compressing the range of the lowest sound level and the highest sound level. Convenient for late night viewing. (Only works with Dolby Digital)
Audio during Search	<ul style="list-style-type: none"> On Off
Speaker Setting (→ see below) Set the delay time for your center and surround speakers.	<ul style="list-style-type: none"> Center (C): <u>0.0</u>/1.0/2.0/3.0/4.0/5.0 ms Surround (LS/RS): <u>0.0</u>/5.0/10.0/15.0 ms

■ “Display” tab

Menu Language	<ul style="list-style-type: none"> • English • 中文 • English • Français • Deutsch • Italiano • Español • Português • Svenska • Nederlands
On-Screen Messages	<ul style="list-style-type: none"> • On • Off

*5 For Southeast Asia

*6 For others

■ “Others” tab

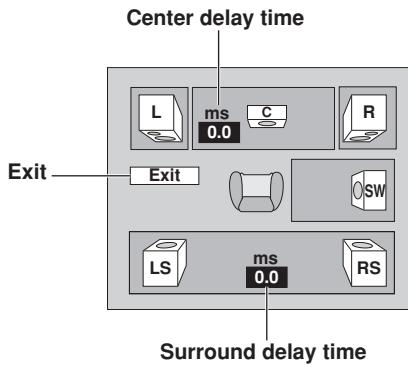
HighMAT	<ul style="list-style-type: none"> • <u>Enable</u> • Disable (Unable to use the HighMAT function)
QUICK SETUP	<ul style="list-style-type: none"> • Yes • No
Re-initialize Setting This returns all values in the Setup menus to the default settings.	<ul style="list-style-type: none"> • Yes: The password screen is shown if Ratings (→ page 22) are set. Please enter the same password. After “Initialize” on the display disappears, turn the unit off and on again. • No

Changing the delay time (Speaker Setting)

(Effective when playing multi-channel audio)

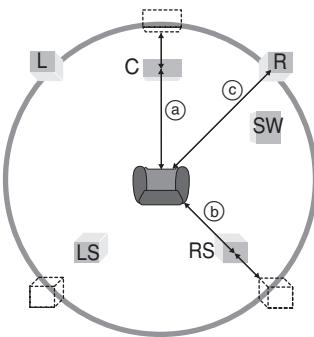
(Center and surround speakers only)

For optimum listening with 5.1-channel sound, all the speakers, except for the subwoofer, should be the same distance from the seating position. If you have to place the center or surround speakers closer to the seating position, adjust the delay time to make up for the difference.



If either distance (a) or (b) is less than (c), find the difference in the relevant table and change to the recommended setting.

□ : Recommended placement



(a) Center speaker

Difference	Setting
Approx. 34 cm	1.0 ms
Approx. 68 cm	2.0 ms
Approx. 102 cm	3.0 ms
Approx. 136 cm	4.0 ms
Approx. 170 cm	5.0 ms

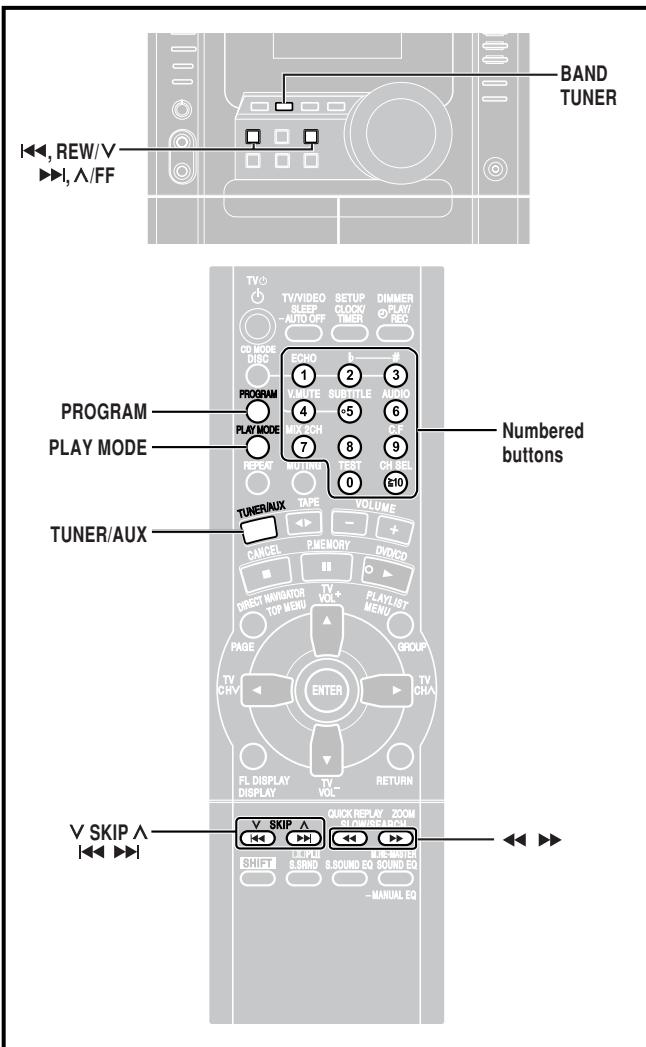
(b) Surround speakers

Difference	Setting
Approx. 170 cm	5.0 ms
Approx. 340 cm	10.0 ms
Approx. 510 cm	15.0 ms

To finish the speaker setting

Press [◀] to select “Exit” and press [ENTER].

The radio



Manual tuning

1 Press [TUNER/AUX] (main unit: [BAND, TUNER]) to select "FM" or "AM".

The unit comes on.

Every time you press the button:

FM → AM → AUX

↑

2 Press [◀◀] or [▶▶] (main unit: [◀◀, REW/V] or [▶▶, A/FF]) to select the frequency.

Press and hold [◀◀] or [▶▶] (main unit: [◀◀, REW/V] or [▶▶, A/FF]) until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.

"TUNED" is displayed when a radio station is tuned.

"ST" is displayed when a stereo FM broadcast is being received.

■ If noise is excessive in FM

Press [PLAY MODE] to display "MONO".

Monaural sound is selected and noise reduces when reception is weak.

Press [PLAY MODE] again to cancel the mode.

"MONO" is also canceled if the frequency is changed.

■ AM allocation setting (main unit only)

For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia

The step is factory-set to 9 kHz, but you can change it to receive broadcasts allocated to 10 kHz steps.

1. Select "FM".

2. Press and hold [BAND, TUNER].

After a few seconds the display changes to show the current minimum frequency. Continue to hold the button down. The minimum frequency changes and the step is changed.

To return to the original step, repeat the above steps.

Note

After changing the "allocation" setting, the frequencies you previously preset in the memory will be cleared. Preset them again.

Preset tuning

There are two methods of pre-setting stations.

Automatic presetting : All the stations the tuner can receive are preset.

Manual presetting : You can select the stations to preset and the order they are preset in.

Up to 15 stations each can be set in the FM and AM bands.

Preparation:

Press [TUNER/AUX] (main unit: [BAND, TUNER]) to select "FM" or "AM".

Automatic presetting

Do the following once each for FM and AM.

Preparation: Tune to the frequency where pre-setting is to begin.

Press and hold [PROGRAM] until the frequency changes.

The tuner presets all the stations it can receive into the channels in ascending order.

- "SET OK" is displayed when the stations are set. The last station to be set is then played.

"ERROR" is displayed

Presetting was unsuccessful. Preset manually.

Manual presetting

Pre-set the stations one at a time.

1 Tune to the station (→ see left).

2 Press [PROGRAM].

3 While "PGM" is flashing on the display

Press the numbered buttons to select a channel.

Alternatively, press [◀◀, ▽] or [▶▶, ▲] (main unit: [◀◀, REW/V] or [▶▶, A/FF]) then press [PROGRAM].

The station occupying a channel is erased if another station is preset in that channel.

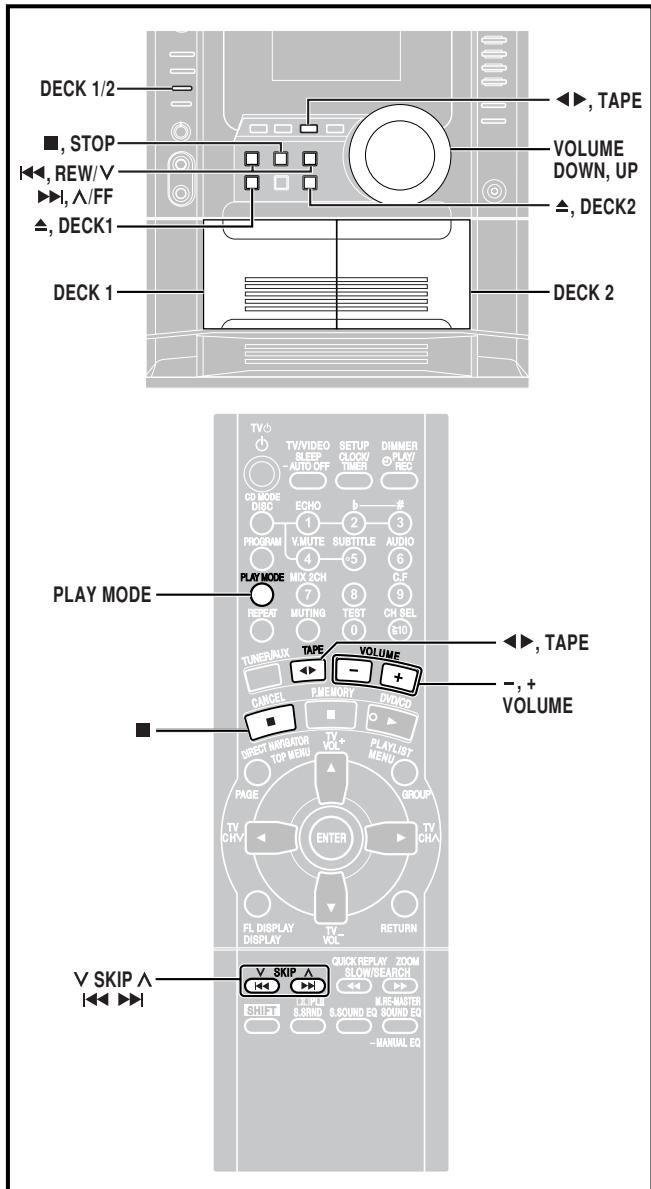
Selecting channels

1 Press [TUNER/AUX] (main unit: [BAND, TUNER]) to select "FM" or "AM".

2 Press the numbered buttons or [◀◀, ▽] or [▶▶, ▲] to select the channel.

CH 2

Cassette tapes



You can use either deck 1 or deck 2 for tape playback.

Use normal position tapes.

High position and metal position tapes can be played, but the unit will not be able to do full justice to the characteristics of these tapes.

1 Press [◀▶, TAPE].

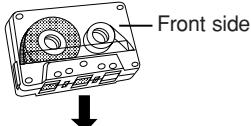
The unit comes on.

If a cassette was loaded, play starts automatically (One touch play).

2 Press [▲, DECK1] or [▲, DECK2] on the main unit and insert the cassette.

Insert with the side to be played facing towards you and the exposed tape facing down.

Close the holder by hand.



3 Press [◀▶, TAPE] to start playback.

Every time you press the button: F ▶ ↔ ▲ R

F ▶: Forward side is played.

▲ R: Reverse side is played.

4 Adjust the volume with [-, + VOLUME] (main unit: [VOLUME DOWN, UP]).

To stop tape playback

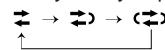
Press [■] (main unit: [■, STOP]).

To select the reverse mode

While TAPE is selected as the source

Press and hold [PLAY MODE].

Every time you press and hold the button:



▲: One side is played.

▶: Both sides are played. (forward → reverse)

Play stops at the end of the reverse side.

◀▶: Both sides are played repeatedly until [■] (main unit: [■, STOP]) is pressed.

To listen to 2 tapes consecutively, load a tape into each deck and select "◀▶". Both tapes will be played repeatedly until [■] (main unit: [■, STOP]) is pressed.

To fast-forward or rewind

Press [◀◀, ▶] (rewind) or [▶▶, ▲] (fast-forward) (main unit: [◀◀, REW/V] (rewind) or [▶▶, ▲/FF] (fast-forward)).

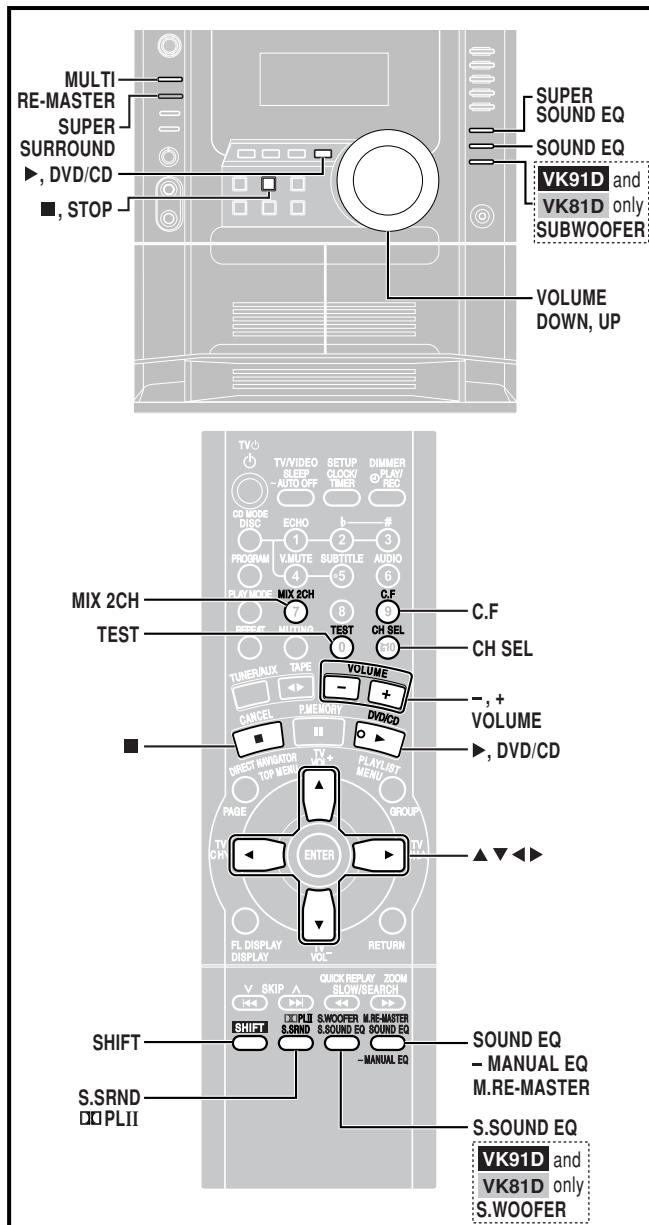
To select between loaded decks

Press [PLAY MODE] (main unit: [DECK 1/2]).

Note

- Tape playback is momentarily interrupted if you open the other deck.
- Tapes exceeding 100 minutes are thin and can break or get caught in the mechanism.
- Tape slack can get caught up in the mechanism and should be taken up before the tape is played.
- Endless tapes can get caught up in the deck's moving parts if used incorrectly. Use tapes appropriate to this unit's auto-reverse mechanism.

Sound field and sound quality



- Super Surround, Center Focus and Subwoofer Level adjustment (→ page 27) cannot be performed if headphones are connected ("ERROR" appears on the display).
- You may experience a reduction in sound quality when these sound field systems are used with some sources. If this occurs, turn the sound field system off.

Dolby Digital and DTS

- Dolby Digital and DTS are digital encoding systems used on DVD to carry surround sound. Both were originally developed for use in cinemas.
- This unit automatically recognizes and decodes these systems.

Software encoded with Dolby Digital can be identified with this mark.



Play a Dolby Digital or DTS source.

The Dolby Digital or DTS indicator lights.



To down-mix Dolby Digital or DTS (multiple-channel) signals to 2 channels

Press [SHIFT] + [MIX 2CH].



To cancel, press [SHIFT]+[MIX 2CH] again.

When "D.MIX" flashes on the display **DVD-A**

The DVD-Audio contains multiple-channel signals that cannot be down-mixed.

Dolby Pro Logic II

Dolby Pro Logic II is an advanced decoder that derives 5-channel surround (Left and Right Front, Center, Left and Right Surround) from any stereo program material, whether or not it has been specifically Dolby Surround encoded.

Press [SHIFT] + [DPLII].

Every time you press the button:

MOVIE: Movie software, recorded in Dolby Surround.

MUSIC: Stereo sources

OFF: Cancel



- This works only in DVD/CD mode.
- "DPLII" lights when there is effect.

Super Surround

Press [S.SRND] (main unit: [SUPER SURROUND]).

Every time you press the button:

MUSIC: Adds surround effects to stereo sources.



MOVIE: Use this mode when playing movie software.

PARTY: Sound is in stereo regardless of the direction you are facing.

(off): Cancel

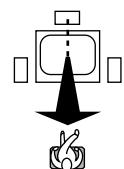
- You can adjust the volume of the surround speakers to get the best surround effect (→ page 27, Speaker level adjustments).
- Super Surround does not work when playing a DVD recorded with 5.1 channel.
- When Super Surround is on, Dolby Pro Logic II turns off.

Center Focus

(Discs where the dialogue is recorded in the center channel)

You can make the sound of the center speaker seem like it is coming from within the television.

Press [SHIFT] + [C.F].



Every time you press the button:

C FOCUS ON ← → **C FOCUS OFF**

- This does not work when Super Surround is turned on.
- This will also work when Dolby Pro Logic II is turned on.

Speaker level adjustments

This is one of the ways to get appropriate surround effects. Adjust the speaker level to the same level as the front speakers.

Preparation:

Press [▶, DVD/CD] and then [■] (main unit: [■, STOP]).

1 Press [SHIFT] + [TEST] to output a test signal.

L: Front left
C: Center
R: Front right
RS: Right surround
LS: Left surround

2 Press [–, + VOLUME] (main unit: [VOLUME DOWN, UP]) to set the volume level normally used for listening.

3 Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.

C, RS, LS: –6 dB to +6 dB

To stop the test signal

Press [SHIFT]+[TEST] again.

Note

There is no output from SW (subwoofer) channel.

■ To adjust speaker level during play

(Effective when playing multi-channel audio or Dolby Pro Logic II is on.)

1 Press [SHIFT]+[CH SEL] to select the speaker.

L→C→R→RS→LS→SW
↑

SW: Subwoofer

- You can adjust SW only if the disc includes a subwoofer channel.
- SW does not appear on the display and is not adjustable when Dolby Pro Logic II is turned on.
- S appears instead of RS and LS on the display when "MUSIC" or "MOVIE" is selected with Super Surround (→ page 26). In this case, you can adjust both surround speaker level at the same time.
- S: –6 dB to +6 dB

2 Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.

C, RS, LS, SW: –6 dB to +6 dB

(L, R: Only the balance is adjustable.)

• To adjust the balance of the front speakers

During play, press [◀, ▶].

Multi Re-master — Enjoying more natural sound

RAM **DVD-V** (Disc recorded with 48 kHz only)

DVD-A (Disc recorded with 44.1 kHz and 48 kHz only)

CD

- During 2ch output of these discs, this feature gives you a more natural sound by adding the higher frequency signals not recorded on the disc, for example, playing DVD-Video recorded with 48 kHz at 96 kHz. (→ page 35, Sampling frequency)
- During multi-channel output of these discs, this feature reproduces the frequencies lost during recording to give you a sound closer to the original.

WMA **MP3** (Disc recording is other than 8 kHz, 16 kHz, 32 kHz)

This feature reproduces the higher frequencies lost during recording to give you a sound closer to the original.

During play

Press [SHIFT] + [M.RE-MASTER] (main unit: [MULTI RE-MASTER]).

Every time you press the button:

Setting	DVD-A	DVD-V	CD	(LPCM/PPCM)	RAM	WMA	MP3
Type of music							
1	High tempo (e.g., pops and rock)				Light		
2	Various tempos (e.g., jazz)				Medium		
3	Low tempo (e.g., classical)				Strong		
Off	Off				Off		

Sound field control

Press [SOUND EQ] to select a setting.

Every time you press the button:

HEAVY: Adds punch to rock.

CLEAR: Clarifies higher sounds.

SOFT: For background music.

DISCO: Reverberates sound to make you feel like you were in a disco.

LIVE: Makes vocals more alive.

HALL: Expands sound to make you feel like you were in a hall.

EQ-OFF: Canceled (no effect is added) (factory preset).

To check the current setting

Press [SOUND EQ].

Using the Manual Equalizer (MANUAL EQ)

Create your own sound quality effects.

1 Press and hold [–MANUAL EQ] until "MANUAL EQ" appears.

2 (Within 8 seconds)

Change the sound quality with the cursor buttons.

- ① Select the sound range to be adjusted with [◀] or [▶].
- ② Adjust the level with [▲] or [▼].

Repeat step 2 to set the desired sound quality.

The original display is restored on the display panel in about 3 seconds.

To cancel

Press [SOUND EQ] to select "EQ-OFF".

The changes you make are stored and automatically recalled the next time you select "MANUAL EQ".

Using the Super Sound Equalizer

Turning on the super sound equalizer gives you a more powerful sound.

Press [S.SOUND EQ] (main unit: [SUPER SOUND EQ]).

The "S.SOUND EQ" indicator lights up.

To cancel

Press [S.SOUND EQ] (main unit: [SUPER SOUND EQ]) to turn off the indicator.

Subwoofer level

VK91D **VK81D**

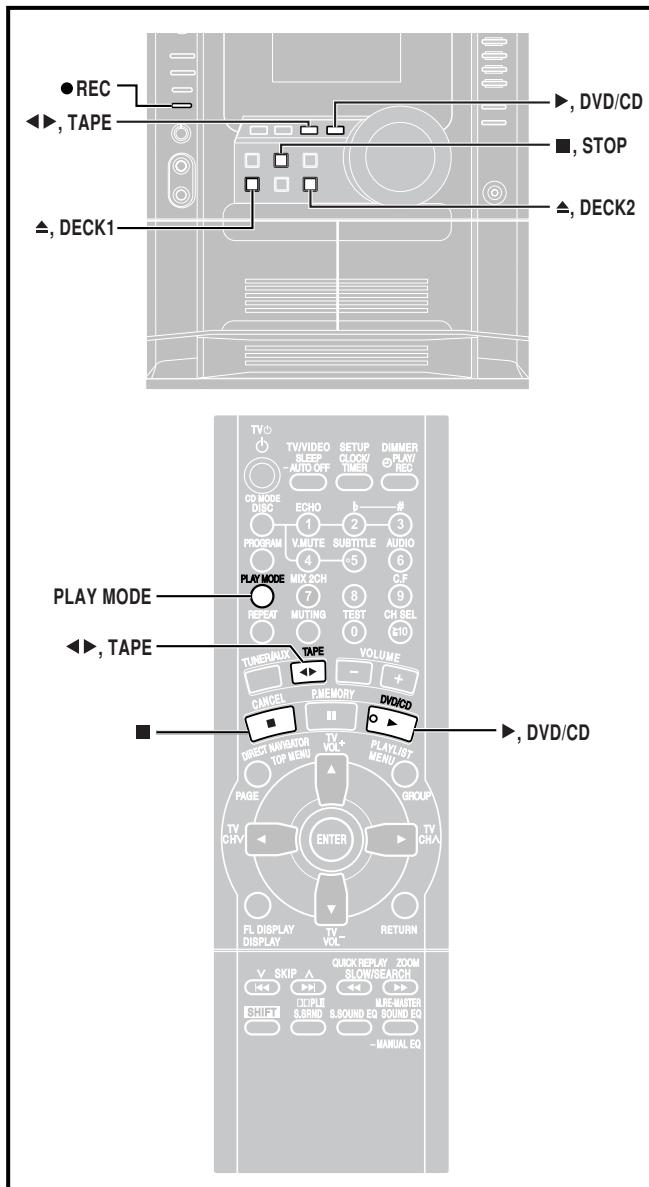
Press [SHIFT] + [S.WOOFER] (main unit: [SUBWOOFER]).



Every time you press the button:

SUB W 1→SUB W 2→SUB W 3 (factory preset)→SUB W 4
↑

Recording



Recording operations

Selection of tapes for recording

Use normal position tapes.

High position and metal position tapes can be used, but this unit will not be able to record or erase them correctly.

Preparation:

- Wind up the leader tape so recording can begin immediately.
- Press [▶, TAPE] and then [□] (main unit: [□, STOP]).

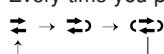
1 Press [▲, DECK2] on the main unit and insert the cassette to be recorded.

Insert with the side to be recorded facing towards you and the exposed tape facing down.

The tape direction is automatically set to "F".

2 Press and hold [PLAY MODE] to select the reverse mode.

Every time you press and hold the button:



↑ : One side only records.

→, → : Both sides record (forward → reverse).

"→" is automatically changed to "→" when [● REC] is pressed.

3 Select the source to be recorded.

Radio recording:

Tune to the required station. (→ page 24)

Disc recording:

- Insert the disc(s) you want to record.
- Press [▶, DVD/CD] and then [□] (main unit: [□, STOP]).
- Prepare the desired disc recording mode.
 - To record programmed tracks (→ do steps 1–3 on page 17).
 - Ensure disc is stopped.

Tape-to-tape recording:

- Press [▶, TAPE] and then [□] (main unit: [□, STOP]).
- Press [▲, DECK1] on the main unit and insert the cassette you want to record.

4 Press [● REC] on the main unit to start recording.

To stop recording

Press [□] (main unit: [□, STOP]).

If the tape finishes before the disc

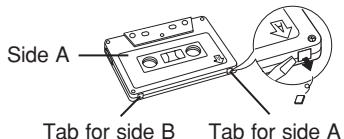
The disc continues playing. Press [□] (main unit: [□, STOP]) to stop it.

Note

- Multi-channel sources (3 to 5.1 channels) are automatically down-mixed to 2 channels during recording.
- Changes to volume and sound or field quality do not affect recording except for Multi Re-master.
- You cannot open deck 1 while recording.
- You cannot fast-forward or rewind one deck while recording with the other.

Erasure prevention

Use a screwdriver or similar object to break out the tab.



To re-record on a protected cassette

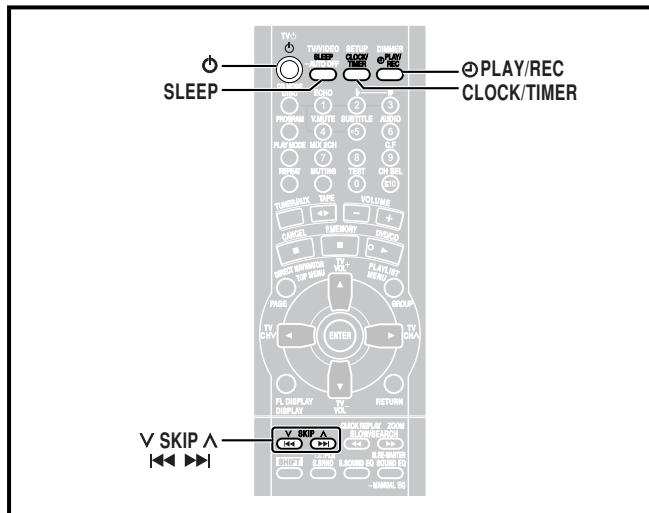
Cover the hole with adhesive tape.



To erase a tape

- Press [▶, TAPE] and then [□] (main unit: [□, STOP]).
- Insert the recorded tape into deck 2. Ensure there is no tape in deck 1.
- Press and hold [PLAY MODE] to select the reverse mode.
- Press [● REC] on the main unit.

Using the timers



The play/record timer

You can set the timer to come on at a certain time to wake you up (play timer) or to record a radio station or from the aux source (record timer).

The play and record timers cannot be used together.

Preparation:

- Turn the unit on and set the clock (→ page 11).
- **For the play timer**, prepare the desired music source (tape/disc/radio/aux), and set the volume.
- **For the record timer**, check the cassette's erasure prevention tabs (→ page 28) and insert the tape in deck 2 (→ page 28). Tune to the radio station (→ page 24) or select the aux source (→ page 34).

1 Press [CLOCK/TIMER] to select the timer function.

Every time you press the button:

CLOCK → ⓁPLAY → ⓁREC

↑ Previous display ↓

ⓐPLAY: to set the play timer

ⓐREC: to set the record timer

2 ON time setting

① (Within 7 seconds or so)

Press [◀◀, ▼] or [▶▶, ▲] to set the start time.

② Press [CLOCK/TIMER].

3 OFF time setting

① Press [◀◀, ▼] or [▶▶, ▲] to set the finish time.

② Press [CLOCK/TIMER].

The start and finish times are now set.

4 Press [ⓐPLAY/REC] to display the timer indicator.

Every time you press the button:

ⓐPLAY → ⓁREC

↑ (off) ↓

ⓐPLAY: to turn the play timer on

ⓐREC: to turn the record timer on

(The indicator doesn't appear if the start and finish times or the clock hasn't been set.)

5 Press [∅] to turn the unit off.

The unit must be off for the timers to operate.

- **Play timer:** Play will start in the set condition at the set time with volume increasing gradually to the set level.
- **Record timer:** The unit comes on 30 seconds before the set time with the volume muted.

To cancel the timer

Press [ⓐPLAY/REC] to clear the timer indicator from the display. (The timer comes on at the set time everyday if the timer is on.)

To change the settings (when the unit is on)

To change the play/record times

Do steps 1, 2, 3 and 5.

To change the source or volume

1. Press [ⓐPLAY/REC] to clear the timer indicator from the display.
2. Make changes to the source or volume.

3. Do steps 4 to 5.

To change the timer

Press [ⓐPLAY/REC] to select the desired timer.

Every time the button is pressed:

ⓐPLAY → ⓁREC

↑ (off) ↓

To check the settings

Press [CLOCK/TIMER] while the unit is on to select "ⓐPLAY" or "ⓐREC".

The settings are shown in the following order:

Play timer: start time → finish time → source → volume

Record timer: start time → finish time → source

To check the settings while the unit is off, press [CLOCK/TIMER] twice.

If you use the unit after the timers are set

After using, check that the correct tape/disc are loaded before turning the unit off.

Note

- If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
- If you selected AUX as the source, when the timer comes on, the unit turns on and engages "AUX" as the source. If you want to playback or record from a connected unit, set that unit's timer to the same time. (See the connected unit's instruction manual.)

The sleep timer

This timer turns the unit off after a set time.

While enjoying the desired source:

Press [SLEEP] to select the time (minutes).

Every time you press the button:

→ SLEEP 30 → SLEEP 60 → SLEEP 90 → SLEEP 120 → SLEEP OFF

To cancel the sleep timer

Press [SLEEP] to select "SLEEP OFF".

To confirm the remaining time

Press [SLEEP] once.

The remaining time is shown for about 5 seconds.

To change the setting

Press [SLEEP] to select the new setting.

You can use the sleep timer in combination with the play/record timer.

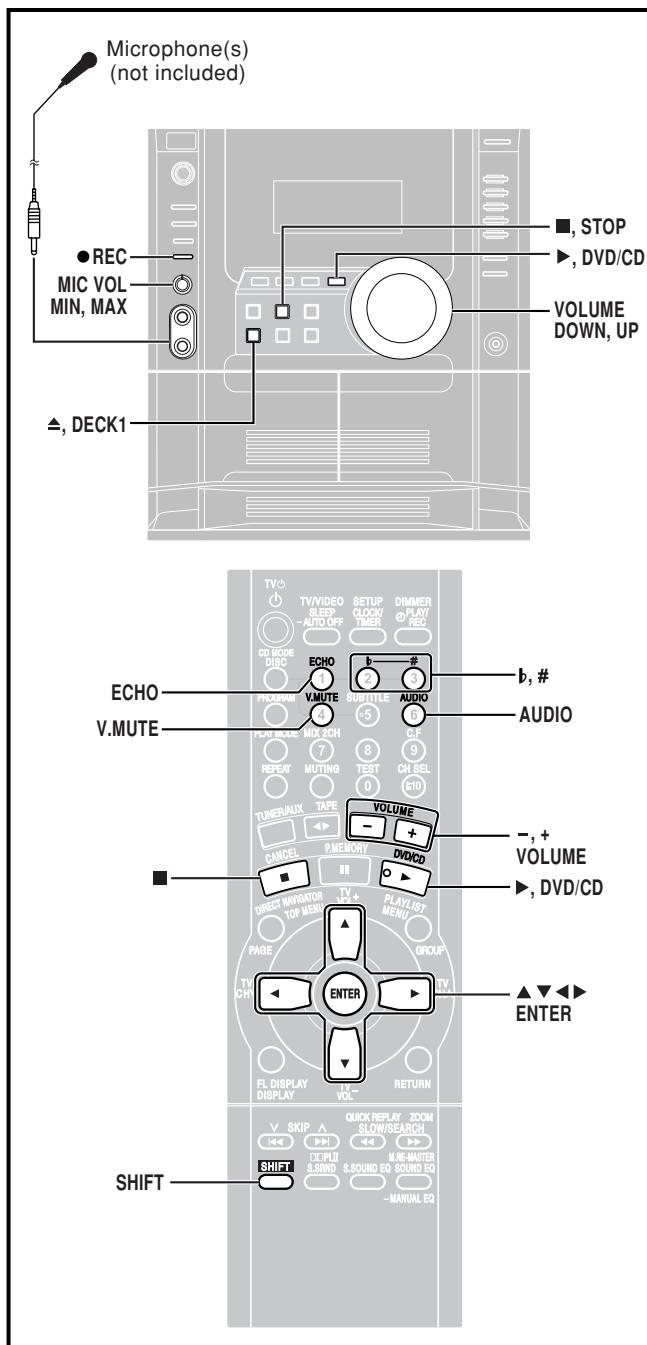
Make sure the unit is off before the play/record timer's start time.

Note

The sleep timer will be turned off when you start recording.

Enjoying karaoke

(For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia)



Vocal mute function

Use this function when enjoying sources not formatted for karaoke. The voice portion of the track is blocked out but not the background music.

Preparation:

RAM VCD

Press [SHIFT]+[AUDIO] to select "LR".

Press [SHIFT] + [V.MUTE] to switch the function on or off.

You need software recorded in stereo sound if you want to use the vocal mute function. Voice and/or static may be reproduced with the following types of software.

- Software recorded monaural
- Classical music or works performed by a limited number of instruments
- Chorus works or duets

Note

There might be some strange sound heard during playback.

Audio mode function

Use this function to set the audio source after switching off the vocal mute function.

Press [SHIFT] + [AUDIO].

Every time you press the button:

RAM VCD CD WMA MP3 TUNER CASSETTE AUX

AUDIO L R → AUDIO L → AUDIO R

(Display on the main unit)

RAM VCD

LR → L → R

(On-screen display on the television)

AUDIO L R (LR): Left channel sound is heard from the left speaker and right channel sound is heard from the right speaker
(Vocal and accompaniment).

AUDIO L (L) : Only left channel sound (No vocal).

AUDIO R (R) : Only right channel sound (Vocal).

Select no vocal for karaoke.

Vocal and no vocal may be reversed.

Actual operations depend on the disc. Read the disc's instructions for details.

Before enjoying the karaoke function

- Lower the microphone volume with [MIC VOL MIN, MAX] on the main unit, then connect the microphones to the microphone jacks. Use a dynamic microphone.

Plug type: 6.3 mm monaural.

Audio is automatically switched to stereo (2ch)

You cannot perform karaoke with surround effects, Dolby Pro Logic II or Center Focus, or during speaker level adjustments.

- If a strange noise (howling) is emitted during use, move the microphone away from the speakers, or turn down the microphone volume.
- When you are not using the microphone, disconnect it from the microphone jack, and turn down the microphone volume level to "MIN".

Enjoying karaoke function

- 1 Select the source and start play.
- 2 Start singing and adjust volume with [-, + VOLUME] (main unit: [VOLUME DOWN, UP]) and [MIC VOL MIN, MAX] on the main unit.

To turn the vocals on and off

DVD-V

- 1 Press [SHIFT] + [AUDIO] during play.
- 2 Press [\blacktriangle] or [\blacktriangledown] then [ENTER], or [\blacktriangleleft , \blacktriangleright] to select the mode.

Solo discs

Off: Vocals off
On: Vocals on

Duet discs

Off: Vocals off
V1+V2: Both parts
V1: Part 1 only
V2: Part 2 only

Changing the key

To raise the key by a halftone:

Press [SHIFT] + [#].

Every time the button is pressed, the key will change as follows:
KEYCON -6 → -5 → -4 → -3 → -2 → -1 → 0 → +1 → +2 → +3 → +4 → +5 → +6

To lower the key by a halftone:

Press [SHIFT] + [b].

Every time the button is pressed, the key will change as follows:
KEYCON +6 → +5 → +4 → +3 → +2 → +1 → 0 → -1 → -2 → -3 → -4 → -5 → -6

To cancel

Press [SHIFT]+[b] or [SHIFT]+[#] to display "0".

Adding an echo effect

Press [SHIFT]+[ECHO].

Every time you press the button:

ECHO 1 → ECHO 2 → ECHO 3 → ECHO 4 → ECHO OFF (off)

↑

The effect increases with the level.

To record your karaoke performance

Preparation:

- Do the preparatory steps 1–2 on page 28.
- **When singing along with discs**
Insert the disc(s) you want (→ page 14).
Press [\blacktriangleright , DVD/CD].
- **When singing along with tape**
Press [\blacktriangle , DECK 1] on the main unit and insert the tape you want.
- **When singing along with radio**
Select your desired station (→ page 24).
- **When singing along from an external source**
Connect and prepare the source (→ page 34).

- 1 Press [SHIFT] + [AUDIO] to select the voice mode.
- 2 Adjust volume with [-, + VOLUME] (main unit: [VOLUME DOWN, UP]) and [MIC VOL MIN, MAX] on the main unit.
Press [\bullet REC] on the main unit and start karaoke performance.

To stop recording

Press [■] (main unit: [■, STOP]).

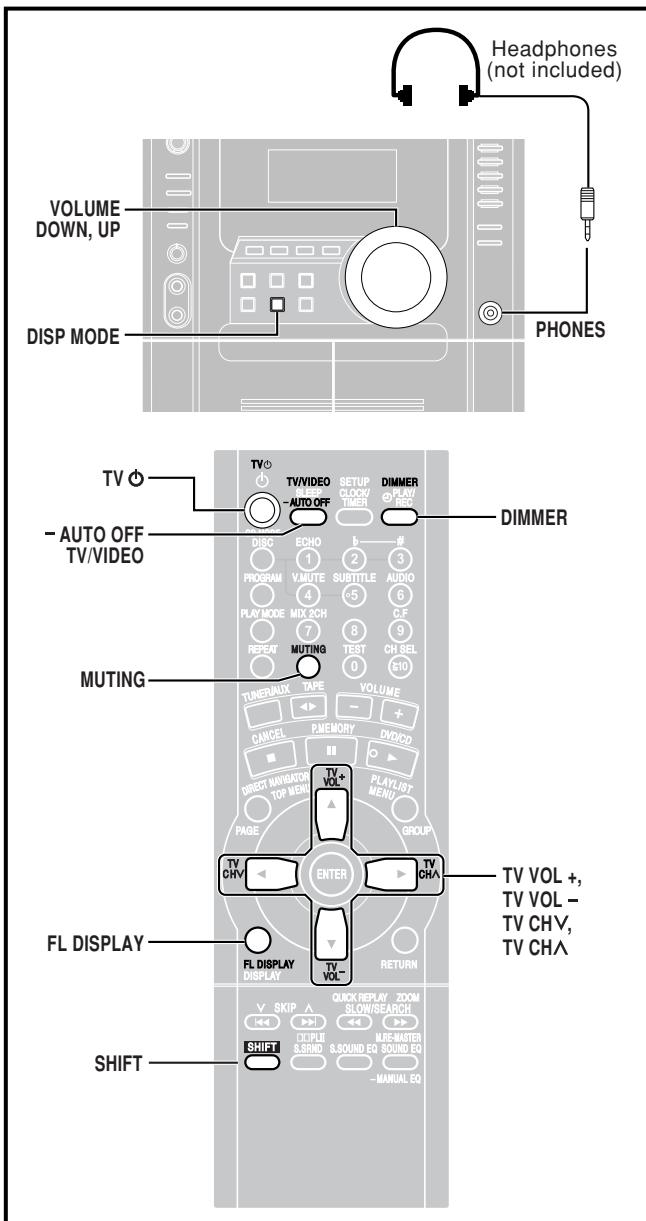
Note

To playback the recorded tape, be sure to press [SHIFT]+[AUDIO] to select the "AUDIO L R" mode.

To record your voice

Preparation: Do the preparatory steps 1–2 on page 28. Ensure that there is no tape in deck 1.

- 1 Press [\bullet REC] on the main unit to start recording.
- 2 Speak through the microphone and adjust volume with [-, + VOLUME] (main unit: [VOLUME DOWN, UP]) and [MIC VOL MIN, MAX] on the main unit.



Changing the main unit's display

During play or pause

Press [SHIFT] + [FL DISPLAY] to select the desired display.

Every time you press the button:

DVD-V **MP3** **WMA**

Number display + Time display \longleftrightarrow Number display
(content/chapter) (group and content/
title and chapter)

JPEG

When Slideshow is on:

Number display + SLIDE/STILL \longleftrightarrow Number display
(content) (group and content)

When Slideshow is off:

Number display + PLAY/STILL \longleftrightarrow Number display
(content) (group and content)

Dimming the display

Press [SHIFT] + [DIMMER].

To return to the original brightness, press [SHIFT]+[DIMMER]
again.

Muting the volume

Press [MUTING].



Volume is reduced to minimum.

To cancel

Press [MUTING] again or reduce the volume to minimum (-dB), then raise it to the required level.

Muting is also canceled when you switched the unit to standby.

Auto-off function

When disc or tape is selected as the source

To save power, the unit turns off if it is left unused for ten minutes.
This function does not work if the source is tuner or AUX.

Press and hold [-AUTO OFF].

"AUTO OFF" is shown on the main unit's display.

The setting is maintained even if the unit is turned off.

If you select tuner or AUX as the source, "AUTO OFF" goes out. It comes on again when you select disc or tape.

To cancel

Press and hold [-AUTO OFF] again.

Using headphones

1 Reduce the volume and connect the headphones (not included).

Headphone plug type: 3.5 mm stereo

2 Adjust headphone volume with [VOLUME DOWN, UP] on the main unit.

Audio is automatically switched to stereo (2-channel).

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

Operating a television

Point the remote control at the television for the following operations.

Turning the television on/off

Press [SHIFT] + [TV Ⓛ].

Switching the television's video input mode

Press [SHIFT] + [TV/VIDEO].

Changing channels

Press [SHIFT] + [TV CHV] or [SHIFT] + [TV CHA].

Adjusting the volume

Press [SHIFT] + [TV VOL+] or [SHIFT] + [TV VOL-].

Note

Some models cannot be operated by this remote control.

Changing the sound range display

The unit's display shows the level of each sound range with the four types of display described below.

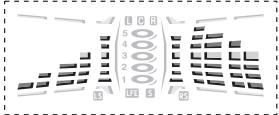
Press [DISP MODE] on the main unit.

Every time you press the button:

Normal display → Peak-hold display → Aurora display
 ↑ (off) ← Reflection display ←

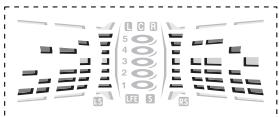
Normal display

This display indicates the strength of the sound in each tonal range.



Peak-hold display

The peak sound value of each sound range is held on the display for about one second after it occurs.



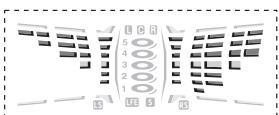
Aurora display

The peak sound value of each sound range is displayed in inverted form.



Reflection display

The display which indicates the strength of the sound in each tonal range is displayed in inverted form.



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Language code list

Abkhazian:	6566	Lingala:	7678
Afar:	6565	Lithuanian:	7684
Afrikaans:	6570	Macedonian:	7775
Albanian:	8381	Malagasy:	7771
Ameharic:	6577	Malay:	7783
Arabic:	6582	Malayalam:	7776
Armenian:	7289	Maltese:	7784
Assamese:	6583	Maori:	7773
Aymara:	6588	Marathi:	7782
Azerbaijani:	6590	Moldavian:	7779
Bashkir:	6665	Mongolian:	7778
Basque:	6985	Nauru:	7865
Bengali; Bangla:	6678	Nepali:	7869
Bhutani:	6890	Norwegian:	7879
Bihari:	6672	Oriya:	7982
Breton:	6682	Pashto, Pushto:	8083
Bulgarian:	6671	Persian:	7065
Burmese:	7789	Polish:	8076
Byelorussian:	6669	Portuguese:	8084
Cambodian:	7577	Punjabi:	8065
Catalan:	6765	Quechua:	8185
Chinese:	9072	Rhaeto-Romance:	8277
Corsican:	6779	Romanian:	8279
Croatian:	7282	Russian:	8285
Czech:	6783	Samoan:	8377
Danish:	6865	Sanskrit:	8365
Dutch:	7876	Scots Gaelic:	7168
English:	6978	Serbian:	8382
Esperanto:	6979	Serbo-Croatian:	8372
Estonian:	6984	Shona:	8378
Faroese:	7079	Sindhi:	8368
Fiji:	7074	Sinhalese:	8373
Finnish:	7073	Slovak:	8375
French:	7082	Slovenian:	8376
Frisian:	7089	Somali:	8379
Galician:	7176	Spanish:	6983
Georgian:	7565	Sundanese:	8385
German:	6869	Swahili:	8387
Greek:	6976	Swedish:	8386
Greenlandic:	7576	Tagalog:	8476
Guarani:	7178	Tajik:	8471
Gujarati:	7185	Tamil:	8465
Hausa:	7265	Tatar:	8484
Hebrew:	7387	Telugu:	8469
Hindi:	7273	Thai:	8472
Hungarian:	7285	Tibetan:	6679
Icelandic:	7383	Tigrinya:	8473
Indonesian:	7378	Tonga:	8479
Interlingua:	7365	Turkish:	8482
Irish:	7165	Turkmen:	8475
Italian:	7384	Twi:	8487
Japanese:	7465	Ukrainian:	8575
Javanese:	7487	Urdu:	8582
Kannada:	7578	Uzbek:	8590
Kashmiri:	7583	Vietnamese:	8673
Kazakh:	7575	Volapük:	8679
Kirghiz:	7589	Welsh:	6789
Korean:	7579	Wolof:	8779
Kurdish:	7585	Xhosa:	8872
Laotian:	7679	Yiddish:	7473
Latin:	7665	Yoruba:	8979
Latvian, Lettish:	7686	Zulu:	9085

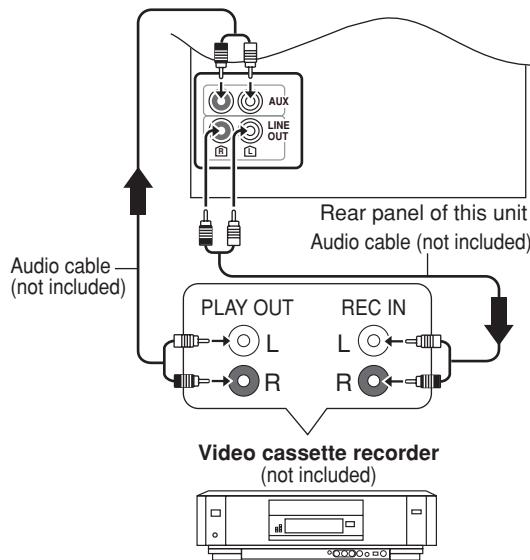
Using other equipment

Before connection

- Disconnect the AC power supply cord.
- Turn off all equipment and read the appropriate operating instructions.
- The equipment connections described are examples.
- Peripheral equipment and optional cables are sold separately unless otherwise indicated.

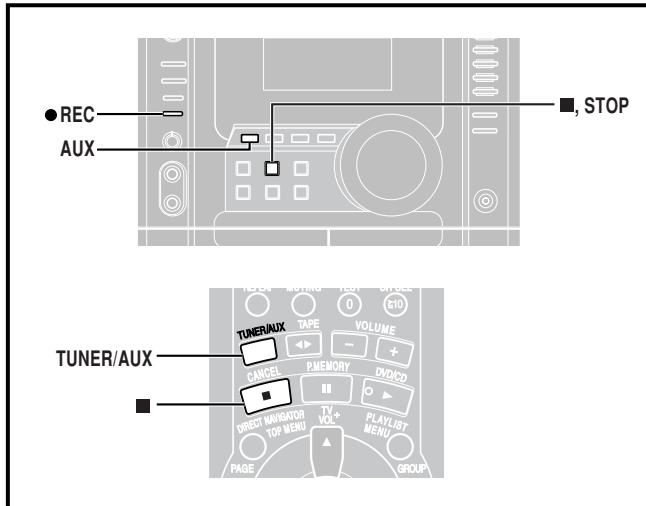
Using an external unit

You can playback the sound from a video cassette recorder, tape deck, laser disc player, etc., through this unit's speaker.



When connecting a record player

We recommend using a record player with a built-in phono equalizer. If your player doesn't have a built-in equalizer, connect it first to a separate equalizer and then connect that to this unit.



1 Press [TUNER/AUX] (main unit: [AUX]).

The unit comes on.

2 For listening : Proceed to step 3.

For recording : Press [● REC] on the main unit (recording starts).

Press [■] (main unit: [■, STOP]) to stop recording.

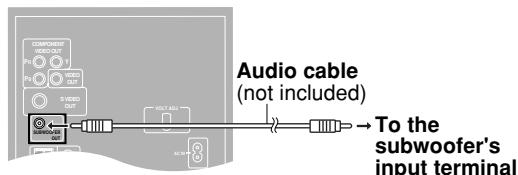
3 Start playback from external source.

(For details, refer to the external unit's instruction manual.)

Using a subwoofer

VK71D

Connect an active subwoofer (not included). See below for connection.



Adjust the volume on the subwoofer to suit your preference.

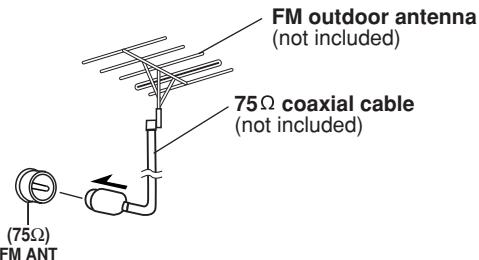
Note

When using headphones, the subwoofer should be switched off.

Optional antenna connections

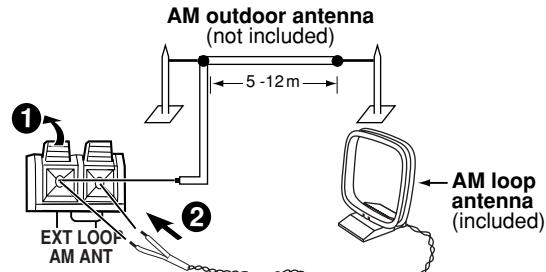
Use outdoor antenna if radio reception is poor.

FM outdoor antenna



- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

AM outdoor antenna



- Run a piece of vinyl wire horizontally across a window or other convenient location.
- Leave the loop antenna connected.

Note

Disconnect the outdoor antenna when the unit is not in use. Do not use the outdoor antenna during a lightning storm.

Glossary

Decoder

A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

Dolby Digital

This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be multi-channel audio. A large amount of audio information can be recorded on one disc using this method.

DTS (Digital Theater Systems)

This surround system is used in many movie theaters around the world. There is good separation between the channels, so realistic sound effects are possible.

Dynamic range

Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

Film and video

DVD-Videos are recorded using either film or video. Usually, film is recorded at 24 frames per second, the rate movies are filmed at, while video is recorded at 30 frames per second.

Frame still and field still

Frames are the still pictures that go together to make a moving picture. There are about 30 frames shown each second.

One frame is made up of two fields. A regular television shows these fields one after the other to create frames.

A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high.

A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

Interlace and progressive output

NTSC, the video signal standard, has 480 interlaced (I) scan lines, whereas progressive scanning uses twice the number of scan lines. This is called 480P. The video signals output from this unit's COMPONENT VIDEO OUT terminals (Y, P_B, P_R) allow you to enjoy higher quality pictures than if the signals were output from the VIDEO OUT terminal or S VIDEO OUT terminal.

I/P/B

MPEG 2, the video compression standard adapted for use with DVD-Video, codes frames using these 3 picture types.

I: Intra coded picture

This picture has the best quality and is the best to use when adjusting the picture.

P: Predictive coded picture

This picture is calculated based on past I or P-pictures.

B: Bidirectionally-predictive coded picture

This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information.

Linear PCM (pulse code modulation)

These are uncompressed digital signals, similar to those found on CDs.

Playback control (PBC)

If a Video CD has playback control, you can select scenes and information with menus.

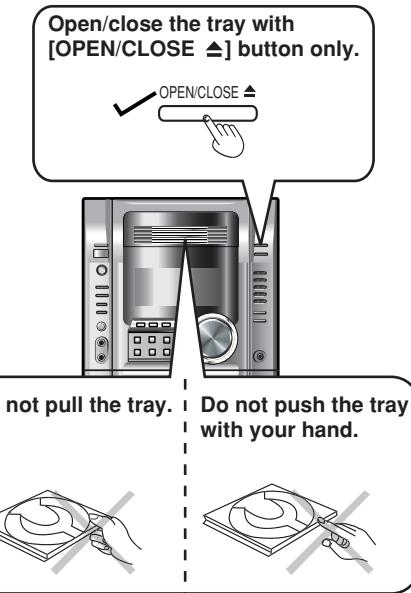
Sampling frequency

Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding). Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

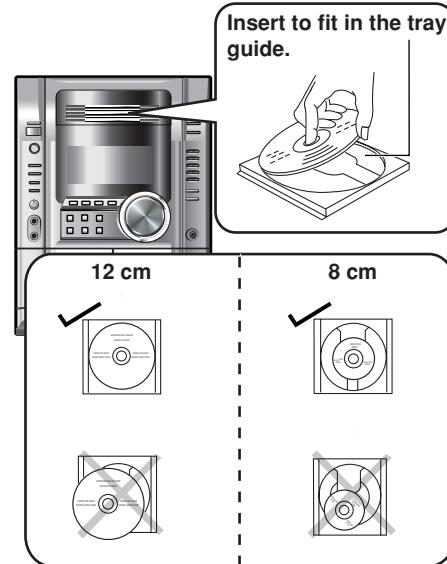
Tray/disc handling procedure

Not adhering to the following may cause problems.

Opening/closing a disc tray



Inserting a disc correctly



- Insert the disc correctly in the position as indicated in the diagrams above.
- Place only one disc on a tray.
- Insert the disc with the label side facing up.

Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, consult your dealer for instructions.

Power

		Page
No power.	• Insert the AC power supply cord securely.	9
The unit is automatically switched to the standby mode.	• The unit was switched to standby by the sleep timer or auto-off function.	29, 32

Operation

No response when buttons pressed.	• Some operations may be prohibited by the disc. • The unit may not be operating properly due to lightning, static electricity or some other external factor. Turn the unit off then back to ON. Alternatively, turn the unit off, disconnect the AC power supply cord, and then reconnect it.	— —
No operations can be performed with the remote control.	• Check that the batteries are installed correctly. • The batteries are depleted: replace them with new ones. • Point the remote control at the remote control sensor and operate.	10 10 —
Cannot switch on the television with the remote control.	• Press [SHIFT]+[TV \odot] first to operate the television.	—
Play doesn't start (or stops immediately) when you press [▶, DVD/CD].	• Condensation has formed: wait 1 to 2 hours for it to evaporate. • This unit cannot play discs other than the ones listed in these operating instructions. • You can only play DVD-Video if their region number is the same or includes the same region number as the unit or if DVD-Video is marked "ALL". Confirm the region number for the unit on the rear panel. • The disc may be dirty and may require cleaning. • Ensure that the disc is installed with the label of the side to be played facing upwards. • Check that the DVD-RAM has something recorded on it.	— 5, 19 Cover 35 —
Cannot select alternative languages.	• This function is dependent on software availability. • Try selecting from the disc's menu if one is available.	— 15
No menu displayed.	• This function is dependent on software availability.	—
No subtitles.	• This function is dependent on software availability. • Subtitles are cleared from the television. Turn on the subtitles.	— 16
The position of the subtitle is incorrect.	• Adjust the position of the subtitle with "Subtitle Position" in the Display Menu.	21
Soundtrack and/or subtitle language is not the one selected with the SETUP menus.	• This function is dependent on software availability.	—
Cannot change angle.	• This function is dependent on software availability. Even if a disc has a number of angles recorded, these angles may be recorded for specific scenes only.	—
The SETUP menu cannot be accessed.	• Select "DVD/CD" as the source. • Cancel all group, program and random play.	— 17
A menu screen appears during skip or search. VCD	• This is normal for Video CDs.	—
Programmed items are not played. DVD-V	• Some items cannot be played even if you have programmed them.	—
The on-screen menu shows "2" as a soundtrack option when [SHIFT]+[AUDIO] is pressed, but the audio does not change. DVD-A	• Even if a second soundtrack isn't recorded, two numbers will normally be shown.	—
Play restarts from the beginning of the track when the soundtrack is changed. DVD-A	• This is normal for DVD-Audio.	—
Cannot select random or program play.	• You cannot select random or program play with some DVD-Video.	—
Folders deeper than the eighth layer on a data disc are not displayed correctly. WMA MP3 JPEG	• Folders deeper than the eighth layer are displayed as the eighth layer.	—
You have forgotten your ratings password. Reset all the SETUP settings to Factory Preset.	• While stopped and "DVD/CD" is the source, press and hold [■, STOP] on the main unit and [\geq 10] on the remote control for about 3 seconds until "Initialized" disappears from the television. Turn the unit off and on again. All settings will return to the default values.	—

Marker

Cannot add markers.	• You cannot add markers to DVD-RAM or if the disc's play time doesn't appear on the unit's display.	—
There are already markers. RAM	• The unit reads and displays the markers added with a DVD video recorder. You can clear them but they will reappear when you switch the unit to standby, change the source, or change the disc.	—

A-B repeat

Point B is automatically set.	• The end of an item becomes point B when it is reached.	—
A-B repeat is automatically canceled.	• A-B repeat is canceled when you press [SHIFT]+[QUICK REPLAY].	—

Sound

No sound. Distorted sound.	• Check the connections. • Turn the volume up. • Turn muting off. • Switch off the unit, determine and correct the cause, then switch the unit on. Causes include: – Shorting (bare wires touching) of positive and negative speaker wires. – Using speakers with an impedance lower than that rated for this unit. – Straining of the speakers through excessive volume or power. – Using the unit in a hot environment without proper ventilation.	7 — 32 —
Effects do not work.	• Some audio effects do not work or have less effect with some discs. • Multi Re-master and Dolby Pro Logic II do not work if you have changed the play speed.	— —
Humming heard during play.	• An AC power supply cord or fluorescent light is near the cables. Keep other appliances and cords away from this unit's cables.	—

Picture

Picture distorted.	• Some distortion is normal during SEARCH.	—
No picture.	• Check the connection. • Make sure the television is on. • Ensure the television's video input setting (e.g., VIDEO 1) is correct.	8 — —
The picture shown on the television is not normal. (The sides of the picture are cut off, the picture is stretched horizontally, or black bands appear at the top and bottom of the screen.)	• Go to "Video" tab in the SETUP menus, and change "TV Aspect" to suit your television. • Use the television to change the aspect to the correct one. If your television cannot change the aspect when input is progressive , try changing 4:3 Aspect in Display Menu. • Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder. • Connect to the component video (480I) input terminals on a television compatible with this unit's copy guard system. You cannot view progressive video if your television is not compatible. • Change the size with the zoom function.	22 21
Picture quality is poor.	• Check the settings in Picture Menu.	21
The picture on the television disappears or stripes appear on the screen.	• Mobile telephone chargers can cause some disturbance. • If you are using an indoor antenna, change to an outdoor antenna. • The television antenna wire is too close to the unit. Separate the antenna wire of the television from the unit.	— — —
Menus not displayed correctly.	• Restore the zoom ratio to "x1.00". • Set "Subtitle Position" in Display Menu to "0". • Set "4:3 Aspect" in Display Menu to "Normal".	16 21 21

Listening to the radio

Noise is heard. "ST" flickers or doesn't light. Sound is distorted.	• Adjust the position of the FM or AM antenna. • Use an outdoor antenna.	— 34
A beat sound is heard.	• Turn the television off or separate it from the unit.	—
A low hum is heard during AM broadcasts.	• Separate the antenna from other cables and cords.	—

Using the cassette deck

Poor quality sound.	• Clean the heads.	38
Recording is not possible.	• If the erasure prevention tabs have been removed, cover the holes with adhesive tape.	28

Troubleshooting guide

Unit displays

Although the unit is on standby mode, the display lights up and changes continuously.	<ul style="list-style-type: none"> Turn off the demo function. If you set the clock, demo function will be turned off automatically. 	11 11
The display is dark.	<ul style="list-style-type: none"> Press [SHIFT]+[DIMMER] to brighten the display. 	32
“NO PLAY”	<ul style="list-style-type: none"> You inserted a disc the unit cannot play; insert one that can. You inserted a blank disc. 	5 —
“NO DISC”	<ul style="list-style-type: none"> You haven't inserted a disc; insert one. You haven't inserted the disc correctly; insert it correctly. 	— 14
“F61”	<ul style="list-style-type: none"> Check and correct the speaker cord connections. If this does not fix the problem, there is a power supply problem. Consult the dealer. 	7
“DVD U11”	<ul style="list-style-type: none"> Disc is dirty. Wipe it clean. 	5
“ERROR”	<ul style="list-style-type: none"> Incorrect operation performed. Read the instructions and try again. 	—
“DVD H□□” □□ stands for a number.	<ul style="list-style-type: none"> Trouble may have occurred. The number following “H” depends on the status of the unit. Turn the unit off and back to ON. Alternatively, turn the unit off, disconnect the AC power supply cord, and then reconnect it. If the service numbers fail to clear, note the service number and contact a qualified service person. 	— —

Television displays

No on-screen display.	<ul style="list-style-type: none"> Select “On” in “On-Screen Messages” in “Display” tab. 	23
The disc's menu is displayed in a different language.	<ul style="list-style-type: none"> Select the preferred language for “Menus” in “Disc” tab. 	22
“Cannot display group xx, content xx.”	<ul style="list-style-type: none"> You are trying to display incompatible contents. 	—

Safety precautions

Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Do not place heavy items on the unit.

Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

Power cord protection

Ensure the AC power cord is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC power cord can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC power cord and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

Maintenance

To clean this unit, wipe with a soft, dry cloth.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

For a cleaner, crisper sound (cassette deck)

Clean the heads regularly to assure good quality playback and recording. Use a cleaning tape (not included).

Specifications

AMPLIFIER SECTION

VK91D

RMS Output Power: Dolby Digital Mode

Front – High Ch	90 W per channel (6 Ω), 1 kHz, 10% THD
Front – Low Ch	45 W per channel (12 Ω), 100 Hz, 10% THD
Surround Ch	45 W per channel (6 Ω), 1 kHz, 10% THD
Center Ch	100 W per channel (6 Ω), 1 kHz, 10% THD
Subwoofer	95 W per channel (6 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power	650 W
PMPO output power	7300 W

VK81D

RMS Output Power: Dolby Digital Mode

Front Ch	80 W per channel (6 Ω), 1 kHz, 10% THD
Surround Ch	35 W per channel (6 Ω), 1 kHz, 10% THD
Center Ch	85 W per channel (6 Ω), 1 kHz, 10% THD
Subwoofer	85 W per channel (6 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power	400 W

For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia

PMPO output power	4800 W
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VK71D

RMS Output Power: Dolby Digital Mode

Front Ch	70 W per channel (6 Ω), 1 kHz, 10% THD
Surround Ch	35 W per channel (6 Ω), 1 kHz, 10% THD
Center Ch	70 W per channel (6 Ω), 1 kHz, 10% THD
Total RMS Dolby Digital mode power	280 W
PMPO output power	3000 W

FM/AM TUNER, TERMINALS SECTION

Preset station	FM 15 stations AM 15 stations
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Frequency Modulation (FM)

Frequency range	87.50 – 108.00 MHz (50 kHz step)
Sensitivity	2.5 μV (IHF)
S/N 26 dB	2.2 μV
Antenna terminals	75 Ω (unbalance)

Amplitude Modulation (AM)

Frequency range	522 – 1629 kHz (9 kHz step) 520 – 1630 kHz (10 kHz step)
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For Australia and N.Z. VK81D

522 – 1629 kHz (9 kHz steps)
AM sensitivity S/N 20 dB at 1000 kHz

Audio performance (Amplifier)

Input sensitivity/Input impedance	250 mV, 20 kΩ
Aux	

Phone jack

Terminal	Stereo, 3.5 mm jack
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For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia

Mic jack	0.7 mV, 600 Ω
Terminal	Mono, 6.3 mm jack (2 system)

CASSETTE DECK SECTION

Type	Auto Reverse
Track system	4-Track, 2 Channel
Head Record/Playback	Solid Permalloy Head
Erasure	Double Gap Ferrite Head
Motor	DC Servo Motor
Recording System	AC Bias 100 kHz
Erase System	AC Erase 100 kHz
Tape Speed	4.8 cm/s
Overall Frequency Response (+3, -6 dB) at DECK OUT	
Normal (TYPE I)	35 Hz –14 kHz
S/N Ratio	50 dB (A weighted)
Wow and Flutter	0.18% (WRMS)
Fast Forward and Rewind Time	Approx. 120 seconds with C-60 cassette tape

DISC SECTION

Disc played [8 cm or 12 cm]

- (1) DVD-RAM (DVD-VR compatible, JPEG formatted disc)
- (2) DVD-Audio
- (3) DVD-Video
- (4) DVD-R (DVD-Video compatible)
- (5) CD-Audio (CD-DA)
- (6) Video CD
- (7) SVCD (Conforming to IEC62107)
- (8) CD-R/CD-RW (CD-DA, Video CD, SVCD, MP3, WMA, JPEG formatted disc)
- (9) MP3/WMA*
 - Compatible compression rate:
MP3: between 32 kbps and 320 kbps
WMA: between 48 kbps and 192 kbps
- (10) JPEG*
 - Exif Ver 2.1 JPEG Baseline files
 - Picture resolution: between 320x240 and 6144x4096 pixels
(sub sampling is 4:2:2 or 4:2:0)
- (11) HighMAT Level 2 (Audio and Image)

* The total combined maximum number of recognizable audio and picture contents and groups: 4000 audio and picture contents and 400 groups.

Pick up

Wavelength (DVD/CD)	662 nm/785 nm
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Audio output (Disc)

Number of channels	5.1 ch (FL, FR, C, SL, SR, SW)
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Audio performance (measurement at: Line out terminal)

Frequency response	
• CD-Audio	4 Hz – 20 kHz (+1, -2 dB)

VIDEO SECTION

Video system

Signal system	PAL625/50, PAL525/60, NTSC
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Composite video output

Output level	1 Vp-p (75 Ω)
Terminal	Pin jack (1 system)

S VIDEO output

Y output level	1 Vp-p (75 Ω)
Pb output level	0.3 Vp-p (75 Ω) (PAL)
Pr output level	0.286 Vp-p (75 Ω) (NTSC)
Terminal	S terminal (1 system)

Component video output (480P/480I)

Y output level	1 Vp-p (75 Ω)
Pb output level	0.7 Vp-p (75 Ω)
Pr output level	0.7 Vp-p (75 Ω)
Terminal	Pin jack (Y: green, Pb: blue, Pr: red) (1 system)

Specifications

SPEAKER SECTION

VK91D Front speakers SB-VK91

Type 3 way, 3 speaker system (Bass reflex)
Speaker unit(s) Impedance High 6 Ω/Low 12 Ω
 Super Woofer 16 cm Cone type
 Woofer 16 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) High 100 W (Max)
 Low 70 W (Max)
 86 dB/W (1.0 m)
 150 Hz, 5 kHz

Output sound pressure Cross over frequency
Frequency range 40 Hz–22 kHz (–16 dB)
 55 Hz–20 kHz (–10 dB)

Dimensions (WxHxD) 209 x 432 x 296 mm
Mass 5.6 kg

VK91D Surround speakers SB-PS81A

Type 2 way, 2 speaker system (Bass reflex)
Speaker unit(s) Impedance 6 Ω
 Woofer 8 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) 50 W (Max)
Output sound pressure 81 dB/W (1.0 m)
 Cross over frequency 6 kHz
Frequency range 55 Hz–22 kHz (–16 dB)
 85 Hz–20 kHz (–10 dB)
Dimensions (WxHxD) 150 x 331 x 163 mm
Mass 1.55 kg

VK91D Center speaker SB-PC81A

Type 2 way, 3 speaker system (Bass reflex)
Speaker unit(s) Impedance 6 Ω
 Woofer 8 cm Cone type
 Woofer 8 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) 120 W (Max)
Output sound pressure 83.5 dB/W (1.0 m)
 Cross over frequency 5.5 kHz
Frequency range 75 Hz–22 kHz (–16 dB)
 85 Hz–20 kHz (–10 dB)
Dimensions (WxHxD) 395 x 105 x 124 mm
Mass 1.7 kg

VK91D Subwoofer SB-WVK91

Type 1 way, 2 speaker system (Bass reflex)
Speaker unit(s) Impedance 6 Ω
 Woofer 16 cm Aluminum Cone type
 Woofer 16 cm Aluminum Cone type
Input power (IEC) 100 W (Max)
Output sound pressure 84 dB/W (1.0 m)
Frequency range 28 Hz–1 kHz (–16 dB)
 37 Hz–1.5 kHz (–10 dB)
Dimensions (WxHxD) 209 x 432 x 348 mm
Mass 5.95 kg

VK81D Front speakers SB-VK81

Type 3 way, 3 speaker system (Bass reflex)
Speaker unit(s) Impedance 6 Ω
 Super Woofer 16 cm Cone type
 Woofer 16 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) 100 W (Max)
Output sound pressure 86 dB/W (1.0 m)
 Cross over frequency 200 Hz, 5 kHz
Frequency range 40 Hz–22 kHz (–16 dB)
 55 Hz–20 kHz (–10 dB)
Dimensions (WxHxD) 209 x 432 x 296 mm
Mass 5.6 kg

VK81D Surround speakers SB-PS81

Type 2 way, 2 speaker system (Bass reflex)
Speaker unit(s) Impedance 6 Ω
 Woofer 8 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) 50 W (Max)
Output sound pressure 81 dB/W (1.0 m)
 Cross over frequency 6 kHz
Frequency range 55 Hz–22 kHz (–16 dB)
 85 Hz–20 kHz (–10 dB)
Dimensions (WxHxD) 150 x 331 x 163 mm
Mass 1.55 kg

VK81D Center speaker SB-PC81

Type 2 way, 3 speaker system (Bass reflex)
Speaker unit(s) Impedance 6 Ω
 Woofer 8 cm Cone type
 Woofer 8 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) 120 W (Max)

Output sound pressure

Cross over frequency

Frequency range

Dimensions (WxHxD)

Mass

VK81D Subwoofer SB-WVK81

83.5 dB/W (1.0 m)
 5.5 kHz
 75 Hz–22 kHz (–16 dB)
 85 Hz–20 kHz (–10 dB)
 395 x 105 x 124 mm
 1.7 kg

1 way, 2 speaker system (Bass reflex)

Impedance 6 Ω

16 cm Aluminum Cone type

16 cm Aluminum Cone type

100 W (Max)

84 dB/W (1.0 m)

28 Hz–1 kHz (–16 dB)

37 Hz–1.5 kHz (–10 dB)

209 x 432 x 348 mm

5.95 kg

VK71D Front speakers SB-VK61

3 way, 3 speaker system (Bass reflex)
 Impedance 6 Ω
 Woofer 16 cm Cone type
 Tweeter 6 cm Cone type
 Super tweeter Piezo type
Input power (IEC) 100 W (Max)
Output sound pressure 85 dB/W (1.0 m)
 Cross over frequency 5 kHz, 10 kHz
Frequency range 39 Hz–21 kHz (–16 dB)
 52 Hz–20 kHz (–10 dB)

Dimensions (WxHxD)

Mass

VK71D Surround speakers SB-PS81B

2 way, 2 speaker system (Bass reflex)
 Impedance 6 Ω
 Woofer 8 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) 50 W (Max)
Output sound pressure 81 dB/W (1.0 m)
 Cross over frequency 6 kHz
Frequency range 55 Hz–22 kHz (–16 dB)
 85 Hz–20 kHz (–10 dB)
Dimensions (WxHxD) 150 x 331 x 163 mm
Mass 1.55 kg

VK71D Center speaker SB-PC81B

2 way, 3 speaker system (Bass reflex)
 Impedance 6 Ω
 Woofer 8 cm Cone type
 Woofer 8 cm Cone type
 Tweeter 6 cm Cone type
Input power (IEC) 120 W (Max)
Output sound pressure 83.5 dB/W (1.0 m)
 Cross over frequency 5.5 kHz
Frequency range 75 Hz–22 kHz (–16 dB)
 85 Hz–20 kHz (–10 dB)

Dimensions (WxHxD)

Mass

GENERAL
Power supply
 For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia
 AC 110V/127V/220–230V/240V, 50/60 Hz
For Australia and N.Z. **VK81D**
Power consumption
 For Saudi Arabia, Kuwait, the Middle East, South Africa and Southeast Asia
VK91D 313 W
VK81D 275 W
VK71D 246 W
For Australia and N.Z. **VK81D** 256 W

Dimensions (WxHxD) 250 x 330 x 372 mm
VK71D 250 x 330 x 364 mm
Mass

VK91D **VK81D** 9.6 kg
VK71D 9.5 kg
Operating temperature range + 5°C to + 35°C
Operating humidity range 5% to 90% RH (no condensation)

Power consumption in standby mode: 1 W
Note
 1. Specifications are subject to change without notice.
 Mass and dimensions are approximate.
 2. Total harmonic distortion is measured by the digital spectrum analyzer.